

EFFECTS OF MODIFIED FLUENCY-ORIENTED READING INSTRUCTION
ON AFRICAN AMERICAN BOYS' ORAL READING FLUENCY
AND ATTITUDES TOWARD READING

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A Dissertation

Submitted to

the Graduate Faculty of

Auburn University

in Partial Fulfillment of the

Requirements for the

Degree of

Doctor of Philosophy

Auburn, Alabama
August 9, 2008

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VITA

Parichart Gaston Thornton was born on April 18, 1969, to David Aaron and Wasana Gaston in Ubon, Thailand. She was raised by her paternal grandmother, Mary E. Gaston, and her father and stepmother, Alice Gaston, in Montgomery, Alabama. She graduated from George Washington Carver High School in Montgomery in 1987. She attended Auburn University Montgomery where she received her Bachelor of Science degree in Psychology in 1991, her Master's degree in Elementary Education in 1994, and her second Master's degree in Educational Leadership and Administration in 2001.

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DISSERTATION ABSTRACT

EFFECTS OF MODIFIED FLUENCY-ORIENTED READING INSTRUCTION

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Doctor of Philosophy, August 9, 2008
(M.Ed., Auburn University–Montgomery, 2001)
(M.Ed., Auburn University–Montgomery, 1994)
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115 Typed Pages

Directed by Susan K. Villaume

Reading achievement among boys has been a subject of interest in educational research for several years. Not until the 1990s did the issue of educating boys become nationally and internationally acknowledged as an existing problem, especially in the United States, Great Britain, and Australia (Epstein, Elwood, Hey, & Maw, 1998). According to the National Center for Educational Statistics (NCES), recent standardized tests reveal that a gender divide in learning achievement is in reading (NCES, 2007).

The primary objective of this study was to determine the effects of reading fluency instruction on African American males' oral reading fluency and reading attitude scores and to find out if there were differences in effects of this instruction on African American males as compared to African American females. The sample consisted of 65 African

American male and female students assigned to classrooms in Grades 2 through 7 enrolled at a parochial school located in a mid-size city in central Alabama. The sample population consisted of 34 males and 31 females.

This study employed a quantitative, non-experimental research design. The key findings that emerged include the following: (1) The use of modified Fluency-Oriented Reading Instruction (m-FORI) resulted in statistically significant differences in pretest and posttest scores for oral reading fluency and reading attitude for African American males, (2) the within-subjects analysis revealed that there was a statistically significant difference in the pretest to posttest oral reading fluency scores for all subjects, (3) the between subjects statistical analysis showed that the use of m-FORI did not result in a statistically significant difference in the pretest to posttest oral reading fluency scores for males as compared to females, and (4) the between subjects analysis resulted in a statistically significant difference in reading attitude with females scoring higher than males in the sample. However, when examined closely, the results show that although females scored higher than males on the reading attitude pretest and posttest, males had slightly higher gains than females. Based on the findings, the researcher discussed the significance of research-supported reading instruction for African American males and its impact on reading achievement.

While the study was limited to students in one parochial school, the findings and recommendations from this study provide teachers with information and procedures that can be used to develop oral reading fluency through instructional routines that are sensitive to African American males yet beneficial to all students regardless of race and gender.

ACKNOWLEDGEMENTS

I would like to express sincere gratitude to all those who provided support during this professional and personal journey. I especially want to thank my doctoral committee chair, Dr. Susan Villaume, for her guidance, encouragement, and advice. I also thank my doctoral committee members, Dr. Edna Brabham and Dr. Judith Lechner, for their guidance and encouragement. A sincere thank you goes to Dr. Betsy Ross for serving as my outside reader in this endeavor.

I want to express appreciation to my parents, friends, and co-workers who lent their support and encouragement, especially Dr. Sandra Harris, Dr. Danjuama Saulawa, Dr. Shirley Barnes, and Mrs. Altamese Stroud-Hill. To my very special cousin who is more like an aunt, Sonja Moffett, I thank you for being my shoulder to cry on, my encourager, and a blessing to my family especially Robbie Aerin. I am forever grateful to Huey, my husband, my friend, and my support system who provided inspiration in achieving my goal of attaining my doctorate. To my sweet daughter Mary Elise, thank you for your kind words, wonderful massages, and beautiful drawings when I needed them most.

Style manual or journal used: Publication Manual of the American Psychological Association (5th ed.)

Computer software used: Microsoft Word 2003; Statistical Package for Social Science 11.5 (SPSS 11.5).

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I. INTRODUCTION

Reading achievement among boys has been a subject of interest in educational research for several years. Not until the 1990s did the issue of educating boys become nationally and internationally acknowledged as an existing problem, especially in the United States, Great Britain, and Australia (Epstein, Elwood, Hey, & Maw, 1998). To add, according to the National Center for Educational Statistics (NCES), recent standardized tests reveal that a gender divide in learning achievement is in reading (NCES, 2007).

Existing literature concerning the literacy lives of boys mainly addresses how the learning experiences for boys and girls are varied in the classroom and how the literacy lives of boys and girls differ (Brozo, 2002; Smith & Wilhelm, 2002). The difference between the literacy acquisition of boys and girls is most obvious from the results of the Nation's Report Cards (NCES, 2007), which makes clear that girls are outperforming boys in Grades 4, 8, and 12 in the area of reading. The report raises concern that boys' scores in reading fall far below those of girls, and these scores are continuing to lag behind those of girls. More specifically, the National Center for Educational Statistics indicates that the gap is greatest for African American boys, whose reading scores are at the bottom of the reading achievement continuum in Grades 4, 8, and 12 (NCES, 2005).

Concern about the reading gender gap motivated the current researcher to embark on this study. A hypothesis guiding this study was the following: Increasing the reading fluency of African American boys using research-based instructional strategies sensitive to this population can minimize the reading achievement gap between boys and girls. Since the ultimate goal of reading is to construct meaning and make sense of text, increasing reading fluency, which functions as a precursor and pathway to the meaning-making process would be a key component in improving boys' reading achievement (Anderson, Heibert, Scott, & Wilkinson, 1985).

The instructional strategy utilized in this study is a modified version of Steven Stahl's (1997) Fluency-Oriented Reading Instruction (FORI). Instead of using basal readers as did Stahl, the current study used class-selected reading topics and short, grade level reading passages. For this study, class-selected refers to the following:

1. The researcher pre-selected short nonfiction texts that were adapted by finding and adding illustrations related to the reading topics.
2. The participating classes voted on which of the two texts they preferred to read first.
3. The next week, the students read the text not selected from the week before.

The researcher made this modification to Stahl's FORI because the literature concerning boys' reading suggests that boys prefer to choose reading topics and to read short nonfiction text. The number of contact days was also reduced from five days a week as used in Stahl's study to three days a week. For this study, the researcher was the only

person implementing the fluency instruction; conversely, in Stahl's study, the classroom teacher implemented fluency instruction five days a week.

Because reading fluency is an area of reading instruction not addressed widely by teachers in an explicit and systematic manner (Rasinski, 2004), this study examined how choice of reading topics and the utilization of a modified Fluency-Oriented Reading Instruction implemented with whole classes influenced the oral reading fluency achievement of African American boys. The study used a methodology based on a non-experimental design with second through seventh grade participants assigned to teachers in self-contained classrooms located in a parochial school in an urban setting in the state of Alabama.

Statement of the Problem

The gender gap in reading is a source of concern nationally, and African American boys are at the lowest end of the achievement continuum. Many educators have issued an urgent call for researchers to find ways to reduce the achievement gap in reading by accelerating the literacy learning of boys (Brozo, 2006). Students who fail to develop reading fluency, in spite of their high intelligence, are prone to "remain poor readers throughout their lives" (National Reading Panel, 2000, pp. 3–10). Moreover, Brozo (2002) concludes that reading failure can result in unemployment, crime, drug addiction, homelessness, and imprisonment. On the other hand, there is evidence suggesting that when teachers encourage choice of reading topics and utilize research-supported instructional strategies, especially with boys, students' reading fluency rate increases as does their desire to read follows suit (Smith & Wilhelm, 2002; Stahl, 1997).

It was the researcher's intent to find out if topic choice and whole group fluency instruction would enable African American boys to read connected text more fluently and develop more positive attitudes towards reading.

Purpose of the Study

The purpose of this study was to assess the effects of fluency instruction on reading fluency scores and attitudes toward reading exhibited by African American boys. Very few studies have focused on African American boys and possible benefits of whole class fluency instruction for this group. This study had the potential to provide much needed information related to how this type of fluency instruction impacts African American boys.

As a result of the "No Child Left Behind" legislation and the objective to make every child a reader by the end of the third grade, concentration on reading as a national priority was established. As all educators know so well, meeting the instructional requirements of every child is difficult work. Just as difficult is closing the achievement gap in reading between boys and girls and particularly for African American boys. In 2004, the National Center for Education Statistics (NCES) reported that females achieved higher scores than males on reading measures at all grade levels. Although the scores of some minorities and other ethnic groups such as Asians have risen, the gender gap seems to be the most persistent discrepancy in equality of reading achievement (NCES, 2004).

African American boys are among the students with the lowest scores on national tests of literacy (NCES, 2004). The potential significance of this study is that it will provide valuable insight regarding ways educators can address the literacy gap that places

African American boys at risk of reading failure, and determine if oral reading fluency instruction and choice of reading topics may lessen the probability of reading failure and development of negative attitudes toward reading within this population. The current study examined practical ways that can be used by educators to address the reading achievement gap between African American males and their peers.

Research Questions

This study addressed the following questions:

1. Does the use of m-FORI result in a statistically significant difference in pretest and posttest oral reading fluency scores for African American males as measured by the Gray Oral Reading Test-4 (GORT-4)?
2. Does the use of m-FORI result in a statistically significant difference in pretest and posttest reading attitude scores for African American males as measured by the Elementary Reading Attitude Survey (ERAS)?
3. Does the use of m-FORI result in a statistically significant difference between African American males' and African American females' pretest to posttest oral reading fluency scores as measured by the GORT-4?
4. Does the use of m-FORI result in a statistically significant difference between African American males' and African American females' pretest to posttest reading attitude scores as measured by the ERAS?

Limitations

Due to the characteristics of this study, several limitations needed to be considered. First, the total sample size for this study was 65 students, which is a relatively small number of participants. Therefore, power, the probability of this sample yielding statistically significant results indicating the existence of a true effect of treatment (Keppel & Wickens, 2004), must be identified as a limitation of the study. The likelihood of detecting a treatment effect increases as sample sizes become larger. As a result of the possible limitation of power limitation to size, this study reports both statistical significance and effect sizes. Effect sizes are measures of practical significance, which quantify treatment effects in spite of sample size. Second, threats to the internal validity can also act as a limitation (Campbell & Stanley, 1963). The lack of random assignment precludes the researcher from controlling for all confounding variables that may affect the outcome of the experiment. Because the researcher used intact groups, selection bias is another threat to the internal validity of this study. The subjects served as treatment groups only and there was no control group, which therefore indicates there is also a “single group” threat to the internal validity of this study. Finally, generalizability is severely limited because it is not possible to determine the degree to which the conclusions of this study will hold for students other than these second through seventh grade African American students or if they will apply to students in other places that are different from this parochial school setting (Gall, Borg, & Gall, 1996).

Definition of Terms

The following terms defined below were important features in the design and execution of this study:

Choral Reading — oral reading fluency practice in which the teacher and the students read the text at the same time.

Direct Instruction — teacher-led instructional procedure that supplies students with explicit instructions on learning a skill or concept.

Echo Reading — oral reading fluency practice in which the teacher reads a passage or paragraph first and then students read the same paragraph.

Integrated Fluency Instruction — reading fluency instruction that combines several components of effective fluency instruction such as oral recitation lesson, fluency development lesson, and Fluency-Oriented Reading Instruction.

Oral Reading Fluency — the ability to read connected passages with accuracy, automaticity, appropriate phrasing, expression, and intonation.

Partner Reading — oral reading fluency practice in which a student reads aloud with a partner of equal reading ability or with a partner that is more fluent.

Repeated Reading — an instructional method in which students are requested to practice reading one passage multiple times until they reach a preset level of oral reading fluency.

II. REVIEW OF THE LITERATURE

From the literature concerning the literacy achievement of boys and girls, the following themes and research outcomes emerge, and they provide the topics addressed in this chapter. First, there is a cluster of reports establishing that girls tend to outperform boys in reading. Second, another group of reports ascertain that an ethnicity gap in reading exists as well as the existence of a gender reading gap between African American boys and girls with African American boys scoring near the bottom of the scale on reading achievement tests. A third set of studies draw attention to likely factors that impact reading achievement of boys in general, which includes African American boys. In addition to reviewing likely factors that impact the reading achievement of boys, literature centering on the aspects of instruction that accommodate boys' literacy learning in a positive manner are described. Finally, the literature focusing on effects of text selection on boys and reading and research-supported oral reading fluency instruction is addressed and used to provide a rationale for the design of this study.

The Reading Achievement Gap

The Gender Gap in Reading Achievement

Studies of reading achievement at international, national, and state levels document that girls consistently outperform boys in the areas of reading comprehension

and reading vocabulary (Alabama State Department of Education, 2007; Grigg & Donahue, 2006; National Assessment of Educational Progress, 2000, 2005; National Center for Educational Statistics, 2003; Nation's Report Card State Reading Snapshot Report, 2007; Perie, 2006).

Reports from the National Center for Educational Statistics (NCES, 2003) reveal that on an international level fourth grade girls score on average higher than fourth grade boys on the combined reading literacy scale. The NCES reports international average score differences between boys and girls ranging from eight points in Italy to 27 points in Belize, Iran, and New Zealand. More specifically, in the United States girls' average reading scores are 18 points higher than boys on the combined literacy scale.

Data from the National Assessment of Educational Progress (2007) document the gender gap in the United States as well as in the State of Alabama, the state in which this study was conducted. As Table 1 indicates, at the national level girls consistently outperform boys at the fourth grade level. Since 1992, these data show a slight upward trend at the national level in reading achievement of both fourth grade males and females but a lingering gender gap of seven percentage points in 2007 (62% vs. 69%) exists. Although the Alabama data show percentages consistently below national averages for males and females, marked improvement is documented from 2005 to 2007 for males (51% to 59%) and females (55% to 65%). This improvement has been attributed to increased emphasis on research-based reading instruction promoted by the Alabama Reading Initiative (Alabama State Department of Education, 2007). Despite recent improvements in reading achievement at the national level and in Alabama, Table 1

shows that a gender gap of seven percentage points remains in the national Grade 4 data and six points in the Alabama Grade 4 data.

Table 1

Percentage At or Above Basic Level in Alabama and US by Males vs. Females

Year	4 th Grade				8 th Grade			
	Alabama		US		Alabama		US	
	Males	Females	Males	Females	Males	Females	Males	Females
1992	48	55	56	65	NR	NR	61	74
1994	48	57	53	64	NR	NR	60	75
1998	53	59	55	60	61	73	64	79
2002	48	56	59	65	59	69	70	79
2003	50	56	58	65	58	72	67	77
2005	51	55	59	66	55	70	66	76
2007	59	65	62	69	57	67	68	77

NR = not reported

Table 1 also documents that throughout the nation as well as in Alabama, the gap in reading achievement widens as girls and boys progress through the grades. A comparison of the Grade 4 and Grade 8 national data for 2007 in Table 1 reveal a gender gap of seven points at Grade 4 and nine points at Grade 8. Interestingly, the 2007 data

show that at the national level the percentage of students scoring at or above the basic level increased from Grade 4 to Grade 8 for both males (62% to 68%) and females (69% to 77%). However, the gender gap widened from seven to nine points because the females made greater strides than did the males. In contrast, the 2007 data reveal that in Alabama the percentage of students scoring at or above the basic level decreased from Grade 4 to Grade 8 for boys (59% to 57%) but increased for females (65% to 67%). Like the national 2007 data, Alabama 2007 data reveal a gender gap in reading achievement that widened from six percentage points in Grade 4 to 10 percentage points in Grade 8.

The Ethnicity Gap in Reading Achievement

Although the NAEP data document a gender gap at the national level and within Alabama, disaggregated data show a much larger gap by ethnicity than is apparent in the aggregated data. As Tables 2 and 3 reveal, the reading achievement gap between Black males and White males and between Black males and Black females is evident. In Table 2 the national percentage of Black male students scoring at or above the basic level in Grade 4 reading increased from 23% in 1992 to 36% in 2005 to 41% in 2007. When compared to the 74% of White males scoring at or above the basic level however, the reading achievement gap between Black and white males was at 33%. Similar to Grade 4, in Grade 8 the national percentage of White male students scoring at or above the basic level increased from 69% percent in 1992 to 76 % in 2005 to 78% in 2007, whereas the percentage of Black males who attain these levels increased from 35% to 47% leaving an achievement gap of 31% between these two ethnic groups. However, Black males making gains with 50% or more scoring at or above basic reading at the national level has not been attained as of 2007.

The *Nation's Report Card State Reading Snapshot Report 2007* for students in Alabama indicates that eighth grade Black males scored 33 percentage points below White males in the eighth grade. The gap has decreased by two percentage points since the 2005 snapshot when the gap in scores was 35 percentage points as evidenced by Table 2. As of 2007 however, Black males in Grades 4 and 8 have not made gains with 50% or more scoring at or above basic reading at the national level on test of reading achievement as well as in the state of Alabama.

Table 2

Percentage At or Above Basic Level in Alabama and US by White Males vs. Black Males

Year	4 th Grade				8 th Grade			
	Alabama		US		Alabama		US	
	White	Black	White	Black	White	Black	White	Black
	Males	Males	Males	Males	Males	Males	Males	Males
1992	59	23	65	23	NR	NR	69	35
1994	60	22	63	23	NR	NR	68	33
1998	65	26	65	32	73	37	72	41
2002	61	23	71	35	73	34	79	47
2003	64	26	70	34	70	36	77	46

(table continues)

Table 2 (continued)

Year	4 th Grade				8 th Grade			
	Alabama		US		Alabama		US	
	White Males	Black Males	White Males	Black Males	White Males	Black Males	White Males	Black Males
2005	65	28	72	36	69	34	76	43
2007	71	41	74	41	69	36	78	47

NR = not reported

Table 3

Percentage At or Above Basic Level in Alabama vs. US by Black Males vs. Black Females

Year	4 th Grade				8 th Grade			
	Alabama		US		Alabama		US	
	Black Males	Black Females	Black Males	Black Females	Black Males	Black Females	Black Males	Black Females
1992	23	32	23	38	NR	NR	35	50
1994	22	33	23	34	NR	NR	33	50

(table continues)

Table 3 (continued)

Year	4 th Grade				8 th Grade			
	Alabama		US		Alabama		US	
	Black	Black	Black	Black	Black	Black	Black	Black
	Males	Females	Males	Females	Males	Females	Males	Females
1998	26	34	32	36	37	50	41	59
2002	23	36	35	44	34	50	47	60
2003	26	37	34	44	36	55	46	60
2005	28	35	36	46	34	54	43	58
2007	41	46	41	51	36	51	47	61

NR = not reported

The disparity in reading achievement by gender and ethnicity in Grade 4 has been well documented according to the NAEP. Since 1992, these data show a rising trend at the national level in reading achievement of both Black fourth grade males and females, but a lingering gender gap of 10 percentage points in 2007 (41% vs. 51%) exists.

The national disparity in reading achievement by gender and ethnicity in Grade 4 is also evident in Grade 8. The NAEP data presented in Table 3 reveal that when comparing the reading achievement scores of Black males to Black females in Grades 4 and 8, Black males still score near the bottom of the scale on tests of reading achievement.

As of 2007, Black males are scoring at or above the basic reading level at an average of 47% in contrast to an average of 61% of Black females in Grade 8. When Black males are compared to Black females reading achievement in Grade 8, Black males are consistently score below their female counterparts. When eighth grade scores in reading are disaggregated by gender and ethnicity in the state of Alabama, the gap between Black males and females in Grade 8 is 15 percentage points (NAEP 2007). To illustrate this gender gap between Black males and females, Table 3 compares reading achievement percentages from 1992–2007. Within the state, Black female students scored 17 percentage points higher than Black male students in eighth grade reading. This average gap in scores has remained steady since the 1998 snapshot.

In summary, multiple sources of reading achievement data clearly indicate that there is not only a reading achievement gap between boys and girls, but that the gap is most significant for African American boys.

Factors that Impact the Reading Achievement Gap

Meeting the needs of all children is not an easy task. Reading achievement data presented in the previous sections suggest that current reading instruction is not as effective for boys as for girls and even less effective for African American males. More specifically, boys perform consistently lower in the areas of reading comprehension, vocabulary, accuracy, rate, and prosodic reading (NAEP, 2002, 2005; Sanford, 2005). Gurian (2001), Pirie (2002), and Smith and Wilhelm (2002) explain that reading instruction typically does not take into consideration boys' attitudes and dispositions toward learning in general or reading specifically. Current research has provided insights

into why countless numbers of boys in general appear to underachieve in reading in their classrooms (Brozo, 2002; Gurian, 2001; Pirie, 2002; Smith & Wilhelm, 2002; Tatum, 2006).

Research indicates that boys generally take longer to learn how to read text than do girls, and boys typically read less volume of text than girls (Gurian, 2001; Pirie, 2002; Smith & Wilhelm, 2002). This body of literature also suggests that in general, girls appear to comprehend narrative and expository texts significantly better than boys, but boys tend to perform better at work-related literacy tasks and retrieval of information related to a specific task. Furthermore, this body of literature indicates the following:

1. Boys often show a dislike for reading and view reading as a passive/feminine activity.
2. Boys have less interest in leisure reading than girls and consider reading as a nonactivity.
3. Boys are more inclined to view themselves as nonreaders.
4. Negative peer pressure may discourage boys from reading and might even stop boys from responding openly to questions that show their interest in reading and/or emotions.
5. With respect to reading attitude, boys generally offer lower estimates of their reading capabilities than girls.

Smith and Wilhelm (2002) conducted a longitudinal, qualitative study of 49 boys with evenly distributed achievement levels ranging from low achievers to high achievers. The boys observed in their study were enrolled in four different schools and included the following ethnic groups: African Americans, Asian Americans, European Americans, and

Puerto Rican Americans. These researchers observed that the boys were more enthused about reading if it related to some type of event directly linked with their personal lives. They also reported that all of the boys interviewed indicated that they read outside of the classroom, but none considered themselves as readers.

Smith and Wilhelm's study concluded that boys often show a dislike for reading and view reading as a passive as well as a feminine activity. These investigators surmised that negative peer pressure may discourage boys from reading and might even stop boys from responding openly to questions and showing an interest in reading and/or emotions. Smith and Wilhelm provide the following explanations:

If reading or other literate activities are perceived as feminized, then boys will go to great lengths to avoid them. This is particularly true if the activities involve effort and the chance of failure, for incompetence and expending effort are also seen as not masculine. (Smith & Wilhelm, 2002, p. 13)

The researchers also reported that the boys divided their reading between in school and real life reading. Additional conclusions include the following: Boys read less than girls; boys take more time to read than girls; boys and girls express interest in reading about different topics, and boys are less likely to respond to what they have read than girls; and, boys prefer to respond physically to reading rather than to respond verbally. In other words, the boys interviewed tended to read text for utilitarian purposes.

Reports of brain-based research provide insights into why boys respond differently to reading instruction than girls. Gurian (2001) reported that areas of boys' brains function differently than the same areas in girls' brains. Gurian points out, for example, that girls' arcuate fasciculus and broca regions of the brain, which control

speech and language capabilities, mature faster than boys. He explains that as a result, girls' complex verbal skills develop as much as a year earlier than boys. Gurian concludes that this difference in brain function is a possible explanation as to why preschool girls tend to have a larger vocabulary and learn to read sooner than their male counterparts.

Asselin (2003), Pirie (2002), and Smith and Wilhelm (2002) suggest that a female-dominated home and school or classroom reading environment can also influence boys' reading achievement. They explain that mothers are often the parent who initiate reading to their children and that a league of mostly female teachers, starting as early as preschool, usher students into the world of formal reading instruction. In elementary school, 91% of all teachers, regardless of subject, are female (National Educational Association, 2006). These female educators have expectations for reading habits and classroom behavior that often run contrary to how boys learn and what boys enjoy reading.

Pirie (2002) and Smith and Wilhelm (2002) also explain that boys' female peers mold the learning environment into feminine domains. Similarly, Gurian (2001) addresses gender and literacy, contending that girls appear to embrace as well as articulate their reading preferences while at school whereas boys prefer to view reading as difficult and unrelated to their interest.

Other literature suggests that classroom and library reading material, selected by mostly female teachers and library media specialists, appeal naturally to female readers but are often not consistent with what male students find interesting (Sullivan, 2004). Texts that appeal to males are often connected to action, violence, and popular culture

and typically are not selected for inclusion in reading curriculum. Instead, text selection more often focuses on character development and emotional discovery. In other words, teachers in school environments view their role as agents for socializing boys away from violence and unruly behavior and for encouraging boys to turn away from their interests or topics of choice (Brozo, 2002; Smith & Wilhelm, 2002; Tatum, 2006). Seemingly, selecting text that appeals to boys is an important factor to consider if teachers are interested in improving boys' reading achievement.

Although a growing body of research provides insights into the gender gap with regard to reading achievement, little research exist that specifically focuses on factors impacting the reading achievement of African American boys. However, Tatum (2006) identifies internal and external factors that may negatively impact these boys' reading achievement. Tatum (2006) notes that issues related to self-concept and identity may be contributing factors and offers the following explanation:

African-American male students often exhibit various cultural-specific coping mechanisms-such behaviors as acting tough, failing to retreat from violence, avoiding self-disclosure, and dissociating from school. (p. 44)

Tatum also suggests that external factors related to structural racism, community patterns, parents' educational attainment, and socioeconomic status may have a negative impact on the reading achievement of African American boys. He offers the following justification:

These adolescents must also deal with negative stereotypes in and out of school, a scarcity of positive role models, and a lack of culturally competent instruction and direction. Moreover, many of them experience problems associated with low

socioeconomic status and high-risk neighborhoods. Students in such neighborhoods are often too consumed with concerns about mortality and safety to think seriously about either schooling or their uncertain futures (Tatum, 2006, p. 44).

Without doubt, investigations focusing on boys' reading achievement and their response to instruction as well as examinations of the reading achievement of African American males provide compelling rationales for explorations of reading instruction that will minimize the gender and ethnicity gap in reading achievement. Research in reading fluency and fluency instruction may provide a promising avenue for these explorations.

Reading Fluency

Harris and Hodges (1995) define a fluent reader as follows: (1) a reader whose performance exceeds normal expectation with respect to age and ability and is an independent reader; and (2) any person who reads smoothly, without hesitation and with comprehension. In *Becoming a Nation of Readers*, Anderson, Hiebert, Scott, and Wilkinson (1985) note that reading fluency is an essential part of skillful reading and must be acknowledged as a component of effective reading instruction.

The link between reading fluency and reading comprehension is well documented. Researchers note that reading fluency is the entryway to successfully decode, interpret, and make meaning of printed text (Kuhn & Stahl, 2003; National Reading Panel, 2000; Rasinski, 2000; Worthy & Broaddus, 2002). When reading fluency is achieved, the mental powers required to support the cognitive processes a reader must

use to derive comprehension are free to flourish. In other words, without fluent reading in place, adequate text comprehension cannot be realized.

Reading achievement gaps are inextricably linked to gaps in reading fluency. In 2002 the NAEP conducted a study focusing on oral reading fluency using 1,779 nationally representative fourth graders. The NAEP found 44% of all fourth graders' oral reading fluency was below grade level. When fluency was measured as a percentage of words read accurately, 37 % of female students as compared to 32% of male students read with at least 98 % accuracy. Ethnically disaggregated data revealed that 38% of White students, 23% of Black students, and 31% of Hispanic students read with at least 98% accuracy.

The NAEP oral reading findings also reported that when fluency was measured as the rate words read accurately in the first minute of oral reading, 60% of female students, as compared to 53% of male students, read at a rate of at least 130 words per minute. The disaggregated data revealed a much larger gap by ethnicity showing 64% of White students, 35% of Black students, and 45% of Hispanic students read at least 130 words in the first minute. These results documented a gender gap in reading achievement as well as a gap between racial and ethnic groups.

Reading Fluency Instruction

The literature reveals multiple methods for providing fluency instruction. These methods include repeated readings, direct instruction, oral modeling of fluent reading, text segmenting, use of easy reading materials, and supported reading.

Research documents that repeated reading is an effective method for developing oral reading fluency. Samuels initially presented repeated reading in 1979 as referenced in Fowler's 1993 article, *Fluency in Reading: Risk Success*. According to Samuels, in order for students to become fluent readers they should practice reading text at their instructional level repeatedly until they can read that text at a predetermined rate. Dowhower (1991) adds that repeated reading is the rehearsal of orally rereading text until it sounds "fluid, flowing and facile" (p. 171). Research shows that repeated readings lead to improvement in decoding, reading speed, prosodic reading, and comprehension of unfamiliar text (Dowhower, 1994; Kuhn & Stahl, 2003; National Reading Panel, 2000). Rasinski (1989) contends that repetition is most successful when students come across words in an assortment of texts or through exposures to one text instead of repeated exposures to words in isolation.

Moreover, repeated reading allows readers opportunities to notice suitable syntactic phrasing in written words and to cluster words much like they would be when spoken. Dowhower (1991) explains that engagement in repeated readings significantly lessens the amount of inappropriate verbal pausing between connected texts and that repeated reading allows a child to discern when to isolate appropriate phrases with intonation and segmental lengthening. In summary, Dowhower concludes that repeated reading improves speed, accuracy and prosody.

A yearlong study conducted by Nathan and Stanovich (1991) investigated the importance of modeling fluent reading with second graders. The subjects were separated into ten control and ten experimental classes. The teachers of the experimental classes read aloud for 20 minutes everyday to their students. After each read aloud, students

participated in an activity such as readers' theatre, performance/drama, or painting a noteworthy scene from the book or text. Results showed that the experimental group scored higher in measures of reading comprehension and vocabulary assessment scores as compared to the control group. These findings suggest that reading fluency can be increased as a result of a teacher modeling fluent reading and of students practicing those modeled behaviors. Another conclusion drawn from this study spotlights additional benefits of fluency instruction and points out that instructional attention to reading fluency can result in an increase in reading vocabulary and comprehension as well as fluency.

Instructional routines that make use of more than one feature of fluency instruction such as modeled fluent reading, repeated reading, choral reading, echo reading, reading while listening in an instructional routine, and performance are considered integrated oral fluency instruction. Integrated fluency instructional routines are fluency lessons which utilize more than one feature of effective fluency instruction. These routines include oral recitation lessons (ORL), fluency development lessons (FDL), and Fluency Oriented Reading Instruction (FORI). Integrated fluency instructional routines can be used in whole class and small group settings. The aforementioned integrated fluency instructional routines will be explained as follows.

The oral recitation lesson (ORL) also known as direct instruction provides a structure for working on fluency during daily reading instruction (Hoffman & Crone, 1985). ORL has two components: direct instruction and student practice. ORL was used with second graders and basal reading texts. In an ORL, direct instruction starts with comprehension. The teacher reads a story to students and guides them in discussing and

exploring the text. This discussion and exploration concludes with the development of a story map, which distinguishes basic elements such as characters, story setting, main story events, and text resolution. As a conclusion of this component in the ORL, students write a story summary using the story map as a writing guide.

The second element of direct instruction in ORL is considered a guided practice segment where the teacher models reading story sections. The teacher also talks about fluent reading and guides students in practicing word accuracy, automaticity, and prosody during oral reading. Students, individually and chorally, put into practice reading the sections modeled by the teacher. Lastly, students read self-selected story sections for classmates.

The student practice element of the ORL is called indirect instruction. During this phase of the ORL students practice reading orally the same text used during the direct instruction lesson. The goal is to achieve oral reading fluency. Hoffman and Crone (1985) suggest that second graders should reach the goal of reading 75 words a minute with 98 percent accuracy before moving to another story. This component takes from 10 to 12 minutes, with students doing soft or whisper reading. The teacher checks on individual mastery and maintains records of students' performance on individual stories. The ORL is an integrated fluency routine designed to cover four instructional sessions and was found to lead to gains in oral reading fluency and text comprehension (Hoffman & Crone, 1985).

Another model of integrated fluency instruction is the fluency development lesson (FDL), which was devised for primary teachers to help students increase reading fluency (Rasinski, Padak, Linek, & Sturtevant, 1994). The FDL covered three to four days a week

and took about 10 to 15 minutes to complete during each instructional routine. On the fifth day students engaged in a read aloud performance using the practiced text. The essential aspects of the FDL includes the teacher modeling fluent reading for students, direct instruction and corrective feedback while reading orally, choral reading, repeated readings of the same text, tape-assisted reading, and supplying students with easy materials for reading. In addition to using effective instruction and practices for building fluency, Rasinski et al. selected short authentic passages containing no more than 150 words. Such passages included poems, rhymes, and other engaging texts.

During Rasinski et al.'s work with the FDL, participating teachers devoted the first two days of instruction to using one text followed by two more days of instruction using new text. In a FDL on the first day the teacher introduces the first text selection by building background, asking students questions about the theme of the reading selection, and discussing students' feeling and attitudes about the text theme. Next, the teacher reads the text aloud two or three times demonstrating word accuracy, appropriate speed, and expression. Finally, the teacher guides the class in numerous choral readings of the text after which students continue to practice reading the text in small groups, in pairs, or alone. On the second day, the reading fluency focus is coaching and rehearsing the performance of the text. During this time students practice reading the text in small groups of four to five, in pairs, or alone focusing on appropriate phrasing, speed, and expression while the teacher provides corrective feedback and instructional support. A new reading selection (prose or poetry) is used for days three and four that follow the same protocol for days one and two. The fifth day is reserved for a performance of one of the texts discussed and practiced during the week.

Rasinski and colleagues (1994) worked with primary grade teachers in implementing FDL three to four times a week from October to June. The students participating in FDL classes experienced greater improvement in overall reading achievement, word recognition, and fluency than a comparable group of children who received a more traditional type of supplemental instruction using the same passages. The children who were the poorest readers at the beginning of the year made the greatest gains.

In an effort to integrate fluency instruction into an existing literacy curriculum, Stahl and his colleagues created the Fluency-Oriented Reading Instruction (FORI) to help below-grade-level readers in the second grade become fluent readers (Stahl, Heubach & Crammond, 1997). Stahl et al. used Hoffman's Oral Recitation Lesson as a springboard to design the format of his Fluency-Oriented Reading Instruction. In FORI, teachers use grade level reading basal text as text for whole group fluency instruction. During this two-year project, 14 teachers and 105 students participated in this study five days a week approximately 25-30 minutes a day. The redesigned basal reading lesson used stories from the participants' second-grade reading text. The steps in the FORI lesson took approximately one week to for each story.

The FORI lesson starts with the teacher reading the assigned basal text to the students and involves students in dialogue about the text that typically focuses on comprehension, vocabulary, and/or the story's theme. On the first day the teacher models fluent reading of the text while the students read along, choral reads, or echo reads. The first day's lesson lasts between 30 and 40 minutes because the entire text must be completed. After the students practice reading the text in class with the teacher, students

take the text home for further practice. For additional practice, struggling readers take the designated reading selection home for the next four nights while students who are able to read the assigned text without difficulty read text of their choice each night.

On day two, whole class FORI instruction commences with the teacher and students engaging in echo reading of the selected text. While echo reading, the teacher asks comprehension questions and discusses vocabulary. Following echo reading, the class moves on to other activities related to the story such as Venn diagrams and story maps. On the third and fourth days of whole class FORI, the lesson starts with the teacher and students chorally reading the text. After choral reading takes place, partner reading of the text ensues. According to Stahl et al., partners can be chosen by the teacher or by the students. However, two struggling readers cannot be paired because neither partner would be able to provide enough oral reading fluency support for the other. In addition to reading orally at home, students read self-selected text at school daily for 15 minutes.

For the 105-second grade participants, Stahl et al. ascertained that students made an average gain of one year eight months of reading growth while in the second grade. All but two of the 105 participants were reading at or above grade level at the conclusion of second grade. As a result of this project, the investigators concluded that when oral reading practice includes repeated reading of text until the student attains high levels of accuracy, automaticity, and prosody, elementary children will read at or above grade level.

All instructional fluency routines cited in this section include repeated practice/repeated reading of a particular passage along with teacher modeling fluent reading that ensures participants have instructional support for their own reading fluency

practice. In addition, the fluency studies of Hoffman (1985), Rasinski (1994), and Stahl (1997) used the first reading of the selected passage to focus on comprehension and vocabulary development. These instructional fluency routines suggest that when comprehension and vocabulary instead of decoding are placed at the forefront of instruction, the readers can understand the text as they focus on attaining oral reading fluency.

Summary

Multiple sources of reading achievement data clearly indicate that there is a reading achievement gap between boys and girls at the international, national, and state levels (ALSDE, 2007; NAEP, 2007; NCES, 2003). The disaggregated data identify a much larger gap by ethnicity than is apparent in the aggregated data; these data show that African American males score lower than their White male counterparts on tests of reading achievement (NAEP, 2007). Moreover, the national and state data reveal that when comparing the reading achievement scores of African American males to African American females in Grades 4 and 8; African American males score much lower, placing them near the bottom of the range of scores on reading achievement tests. Based on documented data, the reading achievement gap is most significant for African American males. This is an urgent matter for educators who are looking for ways to reduce the achievement gap in reading as it pertains to boys. The importance of fluency and implications of gaps in reading achievement are apparent in a statement produced by the National Reading Panel:

Fluency represents a level of expertise beyond word recognition accuracy, and reading comprehension may be aided by fluency. Skilled readers read words accurately, rapidly and efficiently. Children who do not develop reading fluency, no matter how bright they are, will continue to read slowly and with great effort (2000, p. 3-3).

Causes for alarm over gender and ethnic gaps in reading have been identified by Brozo (2002), who contends that reading failure results in unemployment, crime, drug addiction, homelessness, and imprisonment. The research of the literature suggests that teachers can help engage boys in the reading process by selecting topics of interest, providing choice, and promoting social engagement while still focusing on the development of oral reading fluency. The objective of the current study is to assess the effects of fluency instruction on attitude toward reading and reading fluency scores of African American students (especially African American boys) in Grades 2 through 7. If African American boys are able to read connected text fluently, then the desire to read more text and learn from reading may increase which, in turn, may help to reduce the reading achievement gap separating African American boys from their peers.

III. METHODOLOGY

This chapter specifies this research project's methodological design. It is categorized into the following sections: purpose of the study, research questions, research design, setting and sample, instruments, procedure, data collection, and data analysis procedures.

Purpose of the Study

The purpose of this study was to assess the effects of fluency instruction on reading fluency scores and attitudes toward reading of African American males. For this study, the researcher included African American females to determine if fluency instruction could help close the reading achievement gap or if it would be equally effective for African American males and females.

Research Questions

This study attempted to answer the following questions:

1. Does the use of m-FORI result in a statistically significant difference in pretest and posttest oral reading fluency scores for African American males as measured by the GORT-4?

Null hypothesis: The use of m-FORI does not result in a statistically significant difference in pretest and posttest oral reading fluency scores for African American males as measured by the GORT-4.

2. Does the use of m-FORI result in a statistically significant difference in pretest and posttest reading attitude scores for African American males as measured by the ERAS?

Null hypothesis: The use of m-FORI does not result in a statistically significant difference in pretest and posttest reading attitude scores for African American males as measured by the ERAS.

3. Does the use of m-FORI result in a statistically significant difference between African American males' and African American females' pretest to posttest oral reading fluency scores as measured by the GORT-4?

Null hypothesis: The use of m-FORI does not result in a statistically significant difference between African American males' and African American females' pretest to posttest oral reading fluency scores as measured by the GORT-4.

4. Does the use of m-FORI result in a statistically significant difference between African American males' and African American females' pretest to posttest reading attitude scores as measured by the ERAS.

Null hypothesis: The use of m-FORI does not result in a statistically significant difference between African American males' and African American females' pretest to posttest reading attitude scores as measured by the ERAS?

Research Design

This study employed a quantitative, non-experimental research design. Leedy and Ormond (2005) assert that quantitative research is applied in order to explain, authenticate, or validate relationships. This non-experimental group research design was appropriate for this study because it was not possible to implement the major requirement of random assignment of participants that is needed in a true experimental design or to manipulate the instructional treatment using both control and treatment groups (Trochim, 2007). The objective of this non-experimental group design was to assess the effects of fluency instruction on oral reading fluency scores and attitudes toward reading.

The design had pretest and posttest measures for all participants. The pretest and posttest measures allowed the researcher to assess any gains in oral reading fluency and determine if there were changes in reading attitudes after six weeks of fluency instruction. All instruction was administered to the whole class, which included every student who returned the Informed Consent signed by a parent or guardian. Repeated measures analysis of variance (ANOVA) was used to examine the effects of fluency instruction on the students' oral reading fluency and reading attitude as measured by the GORT-4 and the ERAS.

Setting and Sample

The population of interest was African American children in Grades 2 through 7. These students resided in a mid-size city in central Alabama and attended a parochial school. This sample was convenient because it provided a school setting with 100% African American students. More specifically, participants in this study were students in

a school with a student population consisting of 100% African American students and with target Grades 2 through 7. The researcher for this study also selected this site because she had a professional development partnership with the faculty at the school. At the time of the study, the researcher taught at a local university and worked with this school to fulfill classroom recency requirements for teacher educators from the Alabama State Department of Education and to conduct teacher in-service sessions focusing on research-based reading instruction.

The sample consisted of 65 African American male and female students assigned to classrooms in Grades 2 through 7. Descriptive statistics revealed that the sample population consisted of 34 (52.3%) males and 31(47.7%) females. The descriptive results of the sample revealed the following distribution of numbers of participants by grades: Grade 2 (N = 10), Grade 3 (N = 10), Grade 4 (N = 8), Grade 5 (N = 11), Grade 6 (N = 12), and Grade 7 (N = 14).

Of the 65 participants, five students received Title I reading instruction three days a week. Due to the No Child Left Behind legislation, this parochial school provides Title I reading assistance for students reading below grade level as determined by teacher observation, teacher recommendation, and standardized test scores on the Iowa Test of Basic Skills. One participant was unavailable to take the GORT-4 posttest and as a result, the data analysis for the GORT-4 posttest reflects 64 participants. Student participation in this study required parental consent.

Three different commercial reading programs were used for teaching reading at different grade levels in this school. The Harcourt basal program (2005) was used for reading instruction in Grades 2 through 5. A literature-based series titled *Excellent*

Literature Series (Glencoe, 2002) was used in Grades 6 through 7. The *Reading and Shape Up Reading Program* (Merit Software, 2005) was used in the Title I program.

Instrumentation

Two instruments were utilized to measure the participants' reading attitude and oral reading fluency during the course of this study: The Gray Oral Reading Test-Fourth Edition (GORT-4) and the Elementary Reading Attitude Survey (ERAS). The GORT-4 was selected as the measure of pretest and posttest oral reading fluency because the GORT-4 was an assessment capable of assessing students enrolled in Grades 1 through 12. The sample used for this study included participants enrolled in Grades 2 through 7; therefore, the GORT-4 was the oral reading fluency assessment of choice. The Elementary Reading Attitude Survey was chosen because it provided the researcher with indicators of any changes in the participants' pretest and posttest attitudes about reading. Although the ERAS was designed to measure reading attitude for students in Grades 1-6, the ERAS was used as the pretest to posttest measurement of reading attitude with the participants in the seventh grade in order to maintain consistency for this study.

Gray Oral Reading Test, Fourth Edition (GORT-4)

The GORT-4 (Wiederholt & Bryant, 2001) provides an efficient and objective measure of growth in oral reading and an aid in the diagnosis of oral reading difficulties. Five scores provide information on a student's oral reading skills in terms of the following: (1) rate—the amount of time taken by a student to read a story; (2) accuracy—the student's ability to pronounce each word in the story correctly; (3) fluency—the student's rate and accuracy scores combined; (4) comprehension—the appropriateness of

the student's responses to questions about the content of each story read; and (5) overall reading ability—a combination of a student's fluency (i.e., rate and accuracy) and comprehension scores.

The reliability tests conducted by the developers of the GORT-4 include internal consistency, test-retest, alternate form, and inter-rater reliability. Between the years 1999 and 2000, alpha coefficients for internal consistency were established from a normative sample of 1677 individuals in 28 states across the United States (Strauss, Sherman, & Spreen, 2006). All internal consistency reliability coefficients were high. Reliability for comprehension and oral reading quotient (ORQ) were either .98 or .99 across all age groups. The authors consider the ORQ as the best measure of a student's overall oral reading ability (GORT-4). For the subgroups race and learning disabilities alphas exceeded .90. Test-retest reliability was run on Forms A to A (rate, accuracy, and fluency), B to B (rate, fluency, and ORQ), and A to B (rate, accuracy, fluency, and ORQ). All correlations were .90 or above. The correlation coefficients from Forms A to A (comprehension and ORQ) and B to B (accuracy and comprehension) ranged from .80 to .89. The lowest test-retest coefficient, ranging from .70 to .79, was on comprehension Form A to B. Test developers used linear equation procedures when conducting alternate forms reliability tests for Forms A and B. "The linear equating method is based on the assumption that the two forms of the test, which are designed to be parallel, will have essentially the same raw-score distributions, apart from minor differences in the mean and standard deviations" (Buras, 1996, p. 11). The average correlations across age for both forms were $r = .94$ or above for rate, accuracy, and fluency, and $r = .85$ for

comprehension. Inter-rater reliability was conducted on both test forms. The coefficients were high, $r = .94 - .99$.

Eleven validity studies were conducted to determine the correlation of the GORT with other reading tests—several of which are previous tests developed by Gray and previous editions of the GORT. The composite reading score of the ORQ correlated highly with the Gray Diagnostic Reading Test, 2nd Edition (GDRT-2) at $r = .63$. The correlation with the ORQ and the Gray Silent Reading Test (GSRT) were lower, but still high at $r = .59$. Correlations of previous editions of the GORT and other standardized reading tests composite scores were high, ranging from $r = .57$ to $r = .74$. These tests were Test of Word Reading Efficiency (TOWRE), Iowa Tests of Educational Development; California Achievement Test, 5th Edition (CAT-5), Diagnostic Achievement Test, 2nd Edition (DAT-2).

For this study, the researcher was only interested in the Oral Reading Fluency score of this assessment. By examining the difference between the participants' pretest and posttest oral reading fluency scores, the researcher was able to determine if any reading fluency gains were evident.

Elementary Reading Attitude Survey (ERAS)

The ERAS was administered orally to students participating in the study in Grades 2 through 7. The ERAS (McKenna & Kear, 1990) provides quantitative information regarding how children feel about reading. ERAS results can be used to assist teachers in planning reading instruction. The ERAS is a 20-item instrument designed for students in Grades 1 through 6. The first 10 items assess attitudes toward recreational reading (e.g., “How do you feel when you read a book on a rainy

Saturday?”), and the next 10 items assess attitudes toward academic reading (e.g., “How do you feel about taking a reading test?”). The scale has a 4-point reply system using cartoon pictures of Garfield, the fat cat who is a popular cartoon character. Each of the four pictures shows a different mood for the cartoon cat. The most positive picture shows Garfield with his hands in the air and a big grin on his face. The most negative figure shows Garfield scowling with his arms tensed at his side and fists clenched. The more positive of the two middle options shows Garfield smiling; whereas Garfield’s face is unhappy in the other picture. For each of the 20 items, students choose the Garfield that is most representative of their feelings. Scores on the two subscales range from 10 to 40 and scores on the total scale range from 20 to 80.

Cronbach’s alpha was calculated at each grade level for each subscale (recreational and academic) and the composite score to determine the reliability of the Elementary Reading Attitude Survey (ERAS). Coefficients ranged from .74 to .89. Coefficients were .80 or higher for all subscales, except two, recreational at Grades 1 and 2. McKenna and Kear (1990) explained these differences as follows, “It is possible that the stability of young children’s attitudes toward leisure reading grows with their decoding ability and familiarity with reading as a pastime” (p. 638). These results are similar to the results derived from a study conducted by researchers at the University of Mississippi on the reliability and stability of the ERAS across gender, race, and grade level. Across ethnicity, gender, and grade level the alpha coefficients on both subscales and the composite were .80 or above, with two exceptions. The alpha coefficients for fourth grade students on the recreational subscale and for sixth grade students on the academic subscales were .78 and .76, respectively (Kazelskis et al., 2004, 2005).

A study focusing on the reliability and structural validity of scores on the ERAS in a sample of academically talented students revealed satisfactory internal consistency coefficients (Gabeiko, 2007). Median internal consistency coefficients were .79 for the recreational subtest, .84 for the academic subtest, and .87 for total scores. Split-half reliability—a test to determine the consistency of the results of two tests constructed from the same content—was conducted on 46 fifth grade students (Allen, Cipleweski, & Stanovich, 1992). The results were high, $r = .88$ for the recreational scale and $r = .81$ for the academic scale.

Construct validity tests were conducted in several ways (McKenna & Kear, 1990). On the recreational subscale there were three validity tests. Means were compared for students with and without library cards who indicated they had a library available to them. Cardholders had a significantly higher mean score of 30.0 while non-cardholders had a mean score of 28.9 ($p < .001$). A comparison of mean scores was conducted on students who had and had not checked out library books from their school library. The comparison, which was limited to students in classes where teachers did not require students to check out books, yielded a mean score of 29.2 for students who checked out books and 27.3 for students who did not check out books ($p < .001$). A further recreational subscale validity test was conducted on students who reported watching less than one hour of television per night and those who reported watching more than two hours of television per night. The mean for the less than one hour per night group exceeded the mean for the more than two hours per night group, where means were 31.5 and 28.6, respectively ($p < .001$).

The validity of the academic subscale scores was tested by examining the relationship of scores on the subtest to reading ability using teacher characterized norm-grouping of children by low, average, and high reading ability (McKenna & Kear, 1990). The mean academic subscale score of 27.7 for high ability readers was significantly higher than the mean of 27.0 for the low ability group ($p < .001$). According to McKenna and Kear (1990), these results are “reflective of how the students truly felt about reading for academic purposes” (p. 639). The relationship between the recreational and academic subscales was also investigated, yielding an inter-subscale correlation coefficient of .64. Because it is “hypothesized that children’s attitudes toward recreational and academic reading would be moderately correlated” (McKenna & Kear, 1990, p. 639), this result reflects a desired outcome. The final measure of construct validity was determined by a factor analysis, which was conducted to determine whether the traits measured by the survey corresponded to the two subscales (McKenna & Kear, 1990). The factor analysis produced evidence supporting the claim that the recreational and academic subscales “reflect discrete aspects of reading attitude” (McKenna & Kear, 1990, p. 639).

McKenna and Kear’s (1990) findings regarding factor structure validity were replicated by the study conducted by Gabeiko (2007) on academically talented students. Accordingly, the results obtained support the “structural validity of the ERAS and contribute to the body of construct validity evidence” provided by McKenna and Kear (Gabeiko, 2007, p. 11).

For this study, the researcher was only interested in the informal reading attitude scores of the participants. The informal reading attitude scores included the recreational and academic raw combined scores. By examining the difference between the

participants' pretest to posttest reading attitude scores, the researcher was able to determine if any gains indicating more positive reading attitudes were evident.

Procedures

The researcher attained permission from the Institutional Review Board (IRB) of Auburn University and the parochial school to conduct the study. The researcher requested permission from the study site's academic administrator via a conference explaining the purpose of the study. The researcher also met with the faculty members assigned to teach Grades 2 through 7 during a scheduled faculty meeting. The researcher explained the purpose of the study and answered questions the faculty had regarding teacher participation and instructional protocol led by the researcher. The researcher obtained a letter of support to participate and allow the researcher to conduct the study at the school site.

After obtaining permission to conduct the study, the researcher met with students assigned to classrooms in Grades 2 through 7 to explain the purpose of the study, answer questions, and pass out Informed Consent letters for parents or guardians. Students not returning the Informed Consent letters or who did not wish to participate even after a parent or guardian granted Informed Consent remained with their teacher and engaged in instruction as usual without penalty. For this study, 65 out of 66 students of the target population returned the Informed Consent and participated in the study. Of the 65 participants, data were excluded from the analysis of the GORT-4 for one participant due to lack of posttest.

After one week elapsed to allow for the Informed Consent letters to be returned, the study was conducted over a period of eight weeks. During the first week, the researcher administered the GORT-4 and the ERAS, which served as the pretest and posttest measures assessing oral reading fluency and reading attitude. Participants' names were used for matching data; after data were coded, the names were removed from data, and records were shredded.

After the pretest, a modified version of Stahl's (1997) Fluency-Oriented Reading Instruction (m-FORI) was administered to each participating class (Grades 2 through 7) over a period of six weeks. The differences in the modified Fluency-Oriented Reading Instruction used in this study and Fluency-Oriented Reading Instruction (FORI) as described by Stahl (1997) were as follows: (1) The texts used in m-FORI were based on class-selected grade level short reading topics rather than restricted to the grade level basal reader as in FORI; (2) in this study, one person (the researcher) administered the m-FORI instruction to all targeted classes; in FORI, the classroom teacher administered the instruction; (3) the m-FORI was administered three days each week (Monday, Wednesday, and Friday) for six weeks rather than five days each week for an entire school year as in FORI; and (4) in m-FORI, each student spent 15 minutes reading aloud each evening, Monday through Thursday, to a parent or guardian at home rather than the 15 minutes of allotted time during the school day for independent reading required by FORI.

The m-FORI was administered to Grades 2 through 7 every Monday, Wednesday, and Friday for 25 minutes with 5 minutes allotted for transition between classes. The first hour of the school day was allotted for fluency instruction in Grades 6 and 7. The second

hour was allotted for fluency instruction in Grades 4 and 5. The third hour was allotted for fluency instruction in Grades 2 and 3. All instruction was administered to the whole group in each grade. Below is an explanation of the m-FORI treatment protocol.

Materials

Short grade level text from the fluency program titled *The Six-Minute Solution: A Reading Fluency Program* (Adams & Brown, 2005) was adapted and used by the researcher. The researcher adapted the short grade level reading passages by deleting the number of words per line from the passages and adding illustrations related to the reading topics. All reading passages used for this study were nonfiction grade level texts based on social studies and science standards. Permission was granted from the authors to duplicate the program's reading passages for classroom use only if the program was purchased and used by educators to enhance students' oral reading fluency. In order for the fluency instruction to remain consistent, the researcher created a script to use with each class during the study. An example of the m-FORI script can be found in Appendix C.

Instructional Procedures

Monday. The lesson began with introducing the new text. Each week the text changed, but the protocol remained the same for each Monday, Wednesday, and Friday. The researcher followed the steps for pre-reading, including activities designed to promote motivation, activate prior knowledge, and increase familiarity with vocabulary. The researcher read the story aloud to the students. The students followed along in the text as the researcher read aloud. As the researcher read the text aloud, dialogue between the researcher and the students took place, which included discussion about

comprehension, expression, phrasing, and the grapho-phonemic configurations of unfamiliar or challenging words. Following the read-aloud, students engaged in Echo Reading using the selected text (i.e., the teacher reads and the students repeat what the teacher reads).

Tuesday. No instruction was administered.

Wednesday. The researcher began the lesson by reading the selected text aloud and discussing the text. Following the read-aloud, students engaged in Choral Reading (the teacher and the class read aloud together) using the selected text.

Thursday. No instruction was administered.

Friday. The researcher began the lesson by reading the selected text aloud and discussing the text. Following the read-aloud, students engaged in Partner Reading. Partner Reading is a type of reading fluency practice where two students are paired. One student reads aloud while the other student monitors; then, partners switch places and the second partner reads aloud while the first reader monitors.

Nightly Reading Practice

Monday through Thursday, the participants spent at least 15 minutes at home reading the selected text aloud to a parent or guardian. A parent or guardian initialed a nightly reading log indicating the participant practiced reading the selected text aloud. An example of the nightly reading log can be found in Appendix D.

This chapter reported the purpose of this investigation, research questions, research design, setting and sample, instruments, procedures, and data collection. In Chapter IV, the data for this study will be presented and explained. The researcher designed this study to determine if oral reading fluency instruction could lessen the

probability of reading failure and development of negative attitudes toward reading of African American males within this population as well as minimize the reading achievement gap between African American males and their female peers.

IV. RESULTS

Introduction

This chapter reports the results of the data analysis regarding the effects of m-FORI on the oral reading fluency scores and attitude toward reading scores for the African American boys who participated and for the African American males as compared to African American females. This chapter provides reliability analysis for the GORT-4 and ERAS for this sample, results of the data analysis, testing of the null hypothesis for the four research questions, and a summary of the findings.

Reliability Analysis

The researcher conducted a reliability analysis using Cronbach's alpha for the GORT-4 and ERAS pretest and posttest raw scores for the total sample, across grade levels, and for gender. The results are presented in Tables 4 through 7. The researcher used the test value of $\alpha = .70$, as suggested by Kaplan and Sacuzzo (2005), for assessing the statistical significance of the obtained alpha coefficients. Cumulatively the results reflect that the GORT-4 and ERAS have high internal consistency estimates for the scores obtained from the sample included in this study. Tables 4 through 7 also present the 95% band of confidence interval for the data.

Table 4 presents the reliability estimates for the GORT-4 pretest scores by gender. The overall alpha for the combined sample of males and females was .97, while the obtained alpha for males and females was .87 each. The obtained $p = .000$ indicates that the obtained alphas were statistically significant from the test value of $\alpha = .70$. The results indicate that all obtained alpha coefficient were statistically significant at $p < .05$. The 95% confidence interval shows that the band of confidence in which the true alpha is likely to be located.

Table 4

Reliability Estimates for GORT-4 Pretest Scores by Gender

Source	<i>n</i>	ALPHA	<i>F</i>	<i>df</i>	Sig	95% confidence interval	
						Lower bound	Upper bound
Overall	65	.97	2.23	64, 640	.000	.82	.91
Gender							
males	34	.87	2.32	34, 340	.000	.80	.93
females	31	.87	2.34	29, 261	.000	.79	.93

Table 5 presents the reliability estimates for the GORT-4 posttest scores by gender and grade level. The overall alpha for the combined sample of males and females was .88, while the obtained alpha for males and females was .89 and .88 respectively.

The obtained $p = .000$ indicates that the obtained alphas were statistically significant from the test value of $\alpha = .70$. The results indicate that all obtained alpha coefficients were statistically significant at $p < .05$. The 95% confidence interval shows that the band of confidence in which the true alpha is likely to be located.

Table 5

Reliability Estimates for GORT-4 Posttest Scores by Gender

Source	ALPHA	F	df	Sig	95% confidence interval		
					Lower bound	Upper bound	
Overall	64	.88	2.56	64, 704	.000	.84	.92
Gender							
males	34	.89	2.67	34, 374	.000	.82	.94
females	30	.88	2.52	29, 290	.000	.81	.94

Table 6 presents the reliability estimates for the ERAS pretest scores by gender. The overall alpha for the combined sample of males and females was .90, while the obtained alpha for males and females was .89 each. The obtained $p = .000$ indicates that the obtained alphas were statistically significant from the test value of $\alpha = .70$. The results indicate that all obtained alpha coefficients were statistically significant at $p < .05$.

The 95% confidence interval shows the band of confidence in which the true alpha is likely to be located.

Table 6

Reliability Estimates for ERAS Pretest Scores by Gender

Source	n	ALPHA	F	Df	Sig	95% confidence interval	
						Lower bound	Upper bound
Overall	65	.90	2.96	64, 1216	.000	.86	.93
Gender							
males	34	.89	2.63	33, 627	.000	.82	.93
females	31	.89	2.76	30, 570	.000	.83	.94

Table 7 presents the reliability estimates for the ERAS posttest scores by gender. The overall alpha for the combined sample of males and females was .90, while the obtained alpha for males and females was .89 and .87 respectively. The obtained $p = .000$ for the overall alpha and for females as well as the obtained $p = .001$ for males indicates that the obtained alphas were statistically significant from the test value of $\alpha = .70$. The results indicate that all obtained alpha coefficients were statistically significant at $p < .05$. The 95% confidence interval shows that the band of confidence in which the true alpha is likely to be located.

Table 7

Reliability Estimates for ERAS Posttest Scores by Gender

Source	n	ALPHA	F	df	Sig	95% confidence interval	
						Lower bound	Upper bound
Overall	65	.90	2.95	64, 1216	.000	.86	.93
Gender							
males	34	.89	2.63	33, 627	.000	.82	.93
females	31	.87	2.32	19, 361	.001	.77	.94

Results of the Data Analysis

The research questions were answered by testing null hypotheses using the repeated measures ANOVA procedure. The repeated measures ANOVA procedure is used to assess how nominal independent variables influence continuous dependent variables (Howell, 2004). According to Howell (2004) repeated measures ANOVA requires that the following three assumptions are met: (a) that normality of scores obtained in the sample distribution exists, (b) that scores for each participant are independent of one another, and (c) that there is homogeneity of variance in the scores across the groups being investigated in the study.

Normality Assumption

The Kolmogorov-Smirnov (K-S) test was used to test the assumption of normality. The K-S assesses the degree to which the patterns for the distribution of scores obtained for the sample conform to the shape of the normal distribution (Howell, 2004). Table 8 provides a summary of K-S test for the pretest and posttests scores across the sample. The results show that the distributions of scores for both the GORT-4 and ERAS have a slight negative skew. The question then is how far does the shape of each distribution of scores depart from the normal distribution? The researcher turned to a visual inspection of the Q-Q plots to see a visual spread of the scores. The Q-Q plot is a probability chart that compares a distribution of scores for a variable to the shape of the normal distribution (SPSS, 1998). The line on the graph represents what the graph would look like if the distribution of scores were normally distributed. The plots about the line represent scores obtained on the measured variable.

Table 8

Summary of Kolmogorov-Smirnov Test

		ERASPRE	ERASPOST	GORTPRE	GORTPOST
N		65	65	65	64
Normal Parameters(a,b)	Mean	54.8000	65.5692	47.0000	58.5000
	Std. Deviation	10.62603	7.26930	14.81870	16.97430
Most Extreme Differences	Absolute	.108	.101	.083	.070
	Positive	.086	.051	.073	.056
	Negative	-.108	-.101	-.083	-.070
Kolmogorov-Smirnov Z		.867	.815	.672	.557
Asymp. Sig. (2-tailed)		.440	.520	.758	.916

Figures 1–4 show the Q-Q plots for the distribution of pretest and posttest scores for the GORT-4 and the ERAS. A visual inspection of the Q-Q plots show that the pretest to posttest scores for the GORT-4 and the ERAS cluster closely about the line on each of the graphs. The close proximity of the dots about the line indicates that the pattern of scores for the GORT-4 and ERAS pretests and posttest scores closely approximate the shape of the normal distribution. Therefore, the slight negative skew of the data will not affect the overall results of the data analysis.

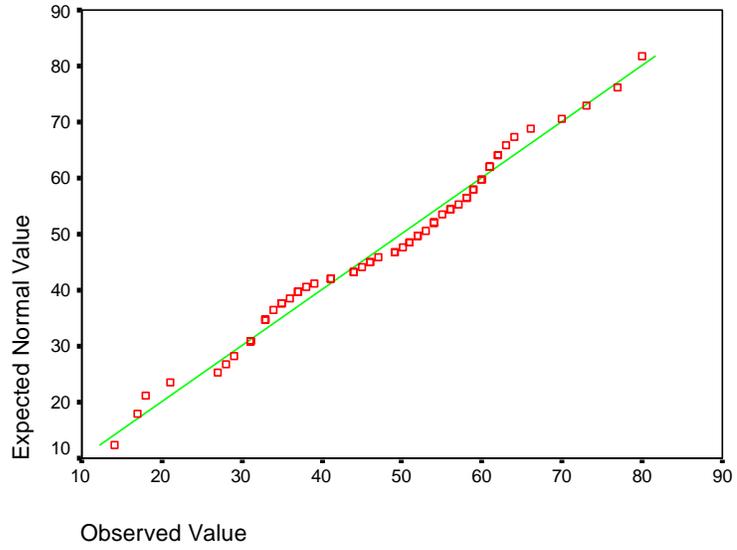


Figure 1. Normal Q-Q Plot of GORT-4 Pretest

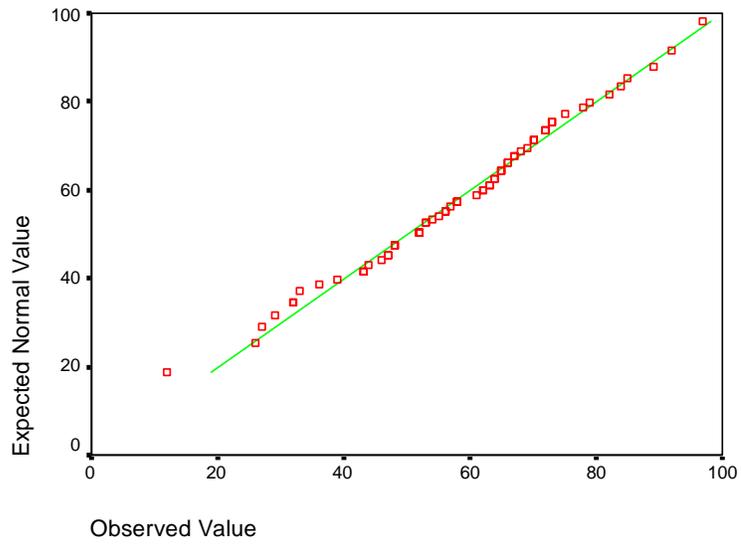


Figure 2. Normal Q-Q Plot of GORT-4 Posttest

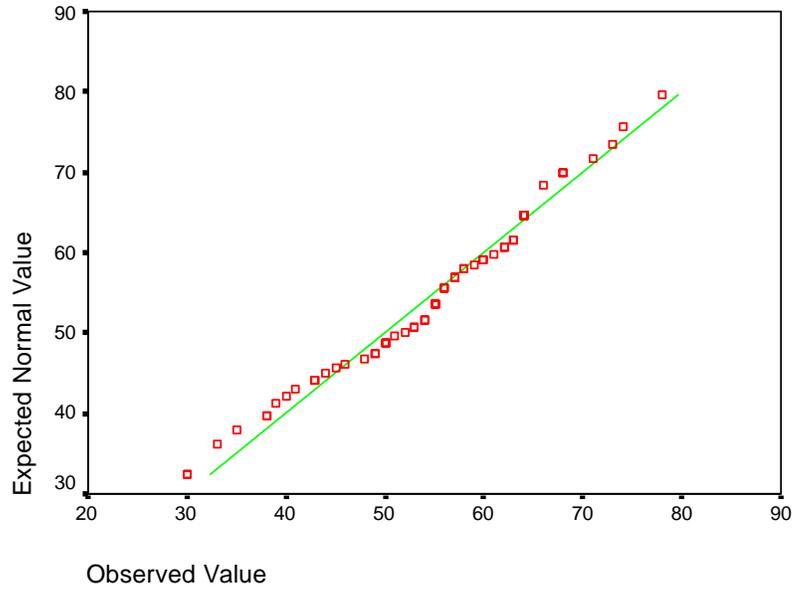


Figure 3. Normal Q-Q Plot of ERAS Pretest

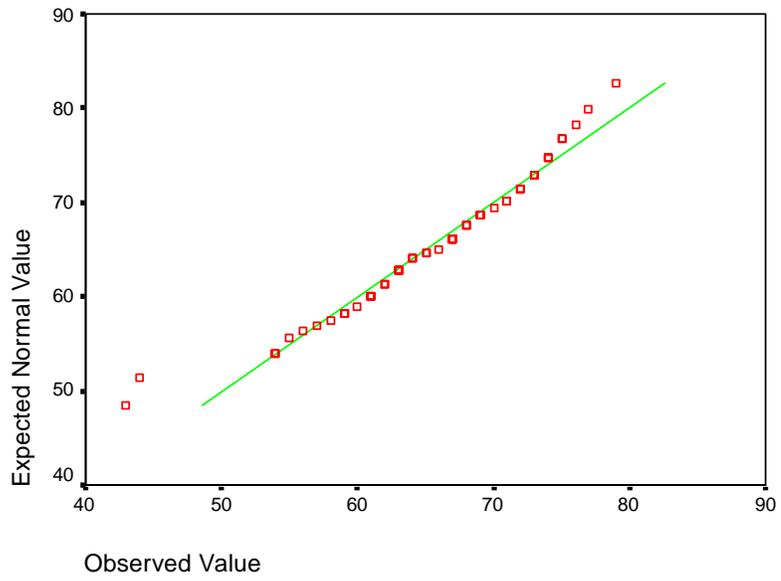


Figure 4. Normal Q-Q Plot of ERAS Posttest

Table 9 shows the results for tests of normality assumption. The data are presented for gender. The obtained p -value for each test was greater than $p = .05$. The lack of statistically significant p -values indicates that the pretest and posttest scores for the GORT-4 and ERAS are normally distributed.

Table 9

Kolmogorov-Smirnov Tests of Normality for Males and Females

		Statistic	df	Sig.
Pretest GORT-4	male	.147	34	.062
	female	.079	30	.200 (*)
Posttest GORT-4	male	.121	34	.200 (*)
	female	.086	30	.200 (*)
Pretest ERAS	male	.116	34	.200 (*)
	female	.115	30	.200 (*)
Posttest ERAS	male	.114	34	.200 (*)
	female	.159	30	.050

* This is a lower bound of the true significance.

Independence of Scores Assumption

The scores of the individual participants were independent of the scores of other participants in the sample. The participants did not influence each other when taking the

pretest or posttest of the GORT-4 or the ERAS because they did not have any interaction. The researcher administered the pretests and posttests to all five grade levels. No discussion was held among the students during the test.

Homogeneity of Variance Assumption

Levene's test of homogeneity of variance was conducted to determine whether the comparison groups (students across levels as well as males and females) had equal variances. Table 10 presents a summary of the results. The data reveal that for all comparisons the obtained p values were greater than .05. This finding indicates that there is no statistically significant difference in the variance in the pretest or posttest scores for the sample. The results show that there was equality of variance on the GORT-4 and ERAS pretest and posttest scores across the sample. Results also show that there was equality of variance across the grade levels and for males and females on the GORT-4 and ERAS pretest and posttest scores.

Table 10

Levene's Test of Equality of Error Variances

	Levene			
	Statistic	df1	df2	Sig.
Comparison Across the Sample				
Pretest GORT-4	1.80	1	62	.18
Posttest GORT-4	.17	1	62	.68
Pretest ERAS	.31	1	63	.58
Posttest ERAS	.04	1	63	.84
Comparison for Male and Females				
Pretest GORT-4	1.80	1	62	.18
Posttest GORT-4	.17	1	62	.68
Pretest ERAS	.25	1	62	.62
Posttest ERAS	.11	1	62	.75

Testing Null Hypotheses

Research Question 1

Does the use of m-FORI result in a statistically significant difference in pretest and posttest oral reading fluency scores for African American males as measured by the GORT-4?

Null hypothesis: The use of m-FORI does not result in a statistically significant difference in pretest and posttest oral reading fluency scores for African American males as measured by the GORT-4.

The repeated measures ANOVA procedure was used to test the null hypothesis for this question. Table 11 presents the GORT-4 pretest and posttest means, standard deviations, and gain scores for males in Grades 2 through 7. Table 12 presents a summary of the results which show that there was a statistically significant difference in the GORT-4 pretest and posttest scores for males in the sample. The ANOVA generated a value of $F(1,33) = 96.32$ which was statistically significant with an obtained $p < .00$. The obtained effect size for Eta-squared was .75. According to Cohen (1988), a value of .14 or greater represents a large effect size, which means that the results were not only statistically significant, but practically significant as well. The findings suggest that the use of m-FORI resulted in significant gains in oral reading fluency of males in the sample.

Table 11

GORT-4 Pretest and Posttest Descriptive Statistics for African American Males

Grade	n	Pretest Mean	SD	Posttest Mean	SD	Gain
2	4	23.25	9.03	34.00	18.20	10.75
3	7	38.14	12.36	48.14	13.92	10
4	5	31.40	3.85	42.40	10.74	11
5	3	47.00	6.56	63.00	4.36	16
6	7	54.29	8.04	67.43	8.40	13.14
7	8	58.50	11.92	69.00	15.70	10.50
Total	34	44.29	15.46	55.82	17.84	11.52

Table 12

Repeated Measures ANOVA Summary for Comparisons for Pretest to Posttest GORT-4 Score Gains for Males

Source	<i>df</i>	<i>F</i>	Sig.	Partial Eta Squared	Observed Power*
GORT-4	1	96.317	.000	.745	1.000
Error(GORTS)	33				

* Computed using alpha = .05

Research Question 2

Does the use of m-FORI result in a statistically significant difference in pretest and posttest reading attitude scores for African American males as measured by the ERAS?

Null hypothesis: The use of m-FORI does not result in a statistically significant difference in pretest and posttest reading attitude scores for African American males as measured by the ERAS.

The repeated measures ANOVA procedure was used to test the null hypothesis for this question. Table 13 presents the ERAS pretest and posttest means, standard deviations, and gain scores for males in Grades 2 through 7. Table 14 results show that there was a statistically significant difference in the ERAS pretest and posttest scores. The repeated measures ANOVA generated a value of $F(1, 33) = 79.40$ which was statistically significant with an obtained $p < .001$. The obtained effect size for Eta-squared was .71. According to Cohen (1988), a value of .14 or greater represents a large effect size, which means that the results were not only statistically significant, but practically significant as well. The findings suggest that the use of m-FORI resulted in statistically significant improvements in attitudes toward reading for males in the sample.

Table 13

ERAS Pretest and Posttest Descriptive Statistics for African American Males

Grade	n	Pretest Mean	SD	Posttest Mean	SD	Gain
2	4	57.00	8.12	66.75	5.19	9.75
3	7	56.86	14.6	68.86	4.34	12
4	5	48.60	8.50	61.00	5.79	12.4
5	3	53.67	9.50	58.33	7.51	4.66
6	7	52.57	5.16	62.00	5.13	9.43
7	8	45.00	10.57	60.00	7.33	15
Total	34	51.70	10.46	63.02	6.59	11.32

Table 14

Repeated Measure ANOVA Summary for Comparisons for ERAS Pretest to Posttest Scores for Males

Source	<i>df</i>	<i>F</i>	Sig.	Partial Eta Squared	Observed Power*
ERAS	1	79.397	.000	.706	1.000
Error (ERAS)	33				

* Computed using alpha = .05

Research Question 3

Does the use of m-FORI result in a statistically significant difference between African American males' and African American females' pretest to posttest oral reading fluency scores as measured by the GORT-4?

Null hypothesis: The use of m-FORI does not result in a statistically significant difference between African American males' and African American females' pretest to posttest oral reading fluency scores as measured by the GORT-4.

Comparison of GORT-4 pretest scores by gender. Before addressing Research Questions 3 and 4, the researcher conducted a one-way ANOVA to determine whether or not males and females obtained statistically significant differences in the pretest scores on the GORT-4. Table 15 presents a summary of the results. The data analysis did not reveal any statistically significant differences in the GORT-4 pretest scores of males and females. The ANOVA generated a value of $F(1, 64) = 2.43$ value was statistically significant with an obtained $p < .12$. The finding suggests that there was probably little difference in the oral reading fluency skills for the males and females at the beginning of the study.

Table 15

ANOVA Summary Comparison of GORT-4 and ERAS Pretest Scores by Gender

Source	Dependent Variable	<i>df</i>	<i>F</i>	Sig.	Partial Eta Squared	Observed Power(a)
Intercept	Pretest GORT-4	1	670.77	.000	.914	1.000
	Pretest ERAS	1	1885.48	.000	.968	1.000
GENDER	Pretest GORT-4	1	2.430	.124	.037	.336
	Pretest ERAS	1	6.571	.013	.094	.714
Error	Pretest GORT-4	63				
	Pretest ERAS					

Within subjects effect. The repeated measures ANOVA procedure was performed to determine whether there was a statistically significant difference across the sample for all subjects (males and females combined) on the GORT-4 pretest and posttest scores. Table 16 presents the GORT-4 pretest and posttest means, standard deviations, and gain scores for males and females in Grades 2 through 7. Table 17 represents a summary of the results for the within subjects effect across gender and grade level. The results reveal a statistically significant difference in GORT-4 pretest and posttest scores for the sample. The repeated measures ANOVA yielded an $F(1, 62) = 164.54$ which was statistically significant with an obtained $p < .001$. The obtained effect size for Eta-squared was .73. According to Cohen (1988), a value of .14 or greater represents a large effect size, which

means that the results were statistically significant, and the practical significance of the obtained results was large.

Table 16

GORT-4 Pretest and Posttest Descriptive Statistics for African American Males and Females

Grade	Gender	n	Pretest Mean	SD	n	Posttest Mean	SD	Gain
2	Male	4	23.25	9.03	4	34.00	18.20	10.75
	Female	6	40.83	7.73	6	50.17	6.31	9.00
3	Male	7	38.14	12.36	7	48.14	13.92	10
	Female	3	30.00	11.53	3	37.67	9.61	7.67
4	Male	5	31.40	3.85	5	42.40	10.74	11
	Female	3	48.00	2.65	3	59.67	10.41	11.67
5	Male	3	47.00	6.56	3	63.00	4.36	16
	Female	8	51.25	10.25	8	65.13	15.49	13.88
6	Male	7	54.29	8.04	7	67.43	8.40	13.14
	Female	5	55.00	4.80	4	68.25	6.55	15.00
7	Male	8	58.50	11.92	8	69.00	15.70	10.50
	Female	6	64.17	15.34	6	76.50	10.88	12.33

(table continues)

Table 16 (continued)

Grade	Gender	n	Pretest Mean	SD	n	Posttest Mean	SD	Gain
Total	Male	34	44.29	15.46	34	55.82	17.84	11.52
	Female	31	49.97	13.71	30	61.53	15.67	11.97
	Total	65	47.00	14.82	64	58.50	16.97	11.73

Table 17

Repeated Measures ANOVA Summary for Comparing Within Subjects Contrasts for GORT-4 Score Difference for All Subjects

Source	<i>df</i>	<i>F</i>	Sig.	Partial Eta Squared	Observed Power(a)
GORT-4 Pre-Post	1	164.54	.000	.726	1.000
GORT-4 x Gender	1	.057	.812	.001	.056
Error (GORT-4)	62				

Between subjects effect. The repeated measures ANOVA procedure was performed to determine whether or not there were statistically significant differences for males compared to females on the GORT-4 pretest to posttest scores. The gender entry of Table 17 yielded an $F(1,62) = .057$ with an obtained $p < .81$. The finding suggests that there was not a statistically significant difference in the oral reading fluency for males as compared to females at the end of the study.

Figure 5 presents a visual display of the mean scores for males and females on the GORT-4 pretest and posttest scores. Figure 5 indicates that females had higher pretest mean scores ($\bar{X} = 50.00$) than males ($\bar{X} = 44.3$). Figure 5 also shows that females had higher posttest mean scores ($\bar{X} = 61.5$) than males ($\bar{X} = 55.8$). Nevertheless, when Figure 5 is examined closely the results seem to show although females scored higher than males on GORT-4 pretest and posttest, both groups made virtually equal amount of gains.

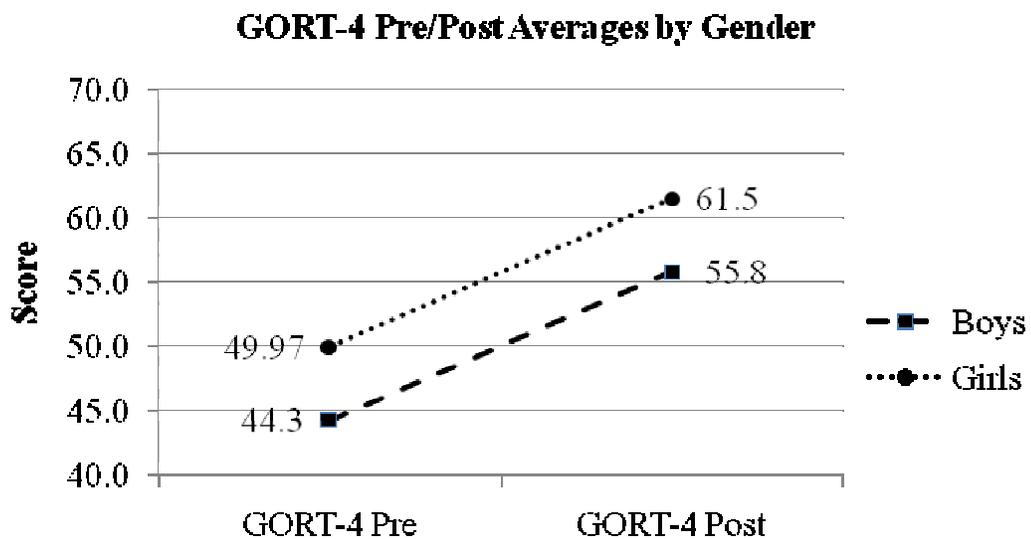


Figure 5. Visual Display of GORT-4 Pretest to Posttest Mean Scores for Males and Females

Research Question 4

Does the use of m-FORI result in a statistically significant difference between African American males' and African American females' pretest to posttest reading attitude scores as measured by the ERAS?

Null hypothesis: The use of modified m-FORI does not result in a statistically significant difference between African American males' and African American females' pretest to posttest reading attitude scores as measured by the ERAS?

Comparison of GORT-4 and ERAS pretest scores by gender. Before addressing Research Questions 4, the researcher conducted a one-way ANOVA to determine whether or not males and females obtained statistically significant differences in the pretest scores on the ERAS. Table 15 presents a summary of the results. The data analysis revealed that there was a statistically significant difference between the scores of males and females on the ERAS pretest scores. The ANOVA generated a value of $F(1, 64) = 6.57$ value was statistically significant with an obtained $p < .01$. The obtained effect size for Eta-squared was .09. According to Cohen (1988), a value of .06 represents a moderate effect size, which means that the while the results were statistically significant, the practical significance of the obtained results was moderate.

Within subjects effect. As mentioned previously a one-way ANOVA was conducted to determine whether or not the combined sample obtained a statistically significant difference in the pretest scores as measured by the ERAS. Table 18 presents the ERAS pretest and posttest means, standard deviations, and gain scores for males and females in Grades 2 through 7. Table 19 presents summary comparing differences on the ERAS pretest to posttest scores for the combined sample. The repeated measures ANOVA generated a value of $F(1, 62) = 137.43$, which was statistically significant with an obtained $p = .001$. The obtained effect size for Eta-squared was .69. According to Cohen (1988), a value of .14 or greater represents a large effect size, which means that

while the results were statistically significant, the practical implications of the results were large.

Table 18

ERAS Pretest and Posttest Descriptive Statistics for African American Males and Females

Grade	Gender	n	Pretest		Posttest		Gain
			Mean	SD	Mean	SD	
2	male	4	57.00	8.12	66.75	5.19	9.75
	female	6	60.33	5.72	68.17	6.74	7.83
3	male	7	56.86	14.60	68.86	4.34	12.00
	female	3	70.67	6.43	74.00	5.57	3.33
4	male	5	48.60	8.50	61.00	5.79	12.40
	female	3	50.33	17.62	66.67	8.14	16.33
5	male	3	53.67	9.50	58.33	7.51	4.67
	female	8	58.13	11.19	65.50	10.25	7.38
6	male	7	52.57	5.16	62.00	5.13	9.43
	female	5	58.80	4.97	68.60	2.07	9.80
7	male	8	45.00	10.57	60.00	7.33	15.00
	female	6	53.33	7.31	70.17	4.96	16.83

(table continues)

Table 18 (continued)

Grade	Gender	n	Pretest		Posttest		Gain
			Mean	SD	Mean	SD	
Total	male	34	51.71	10.46	63.03	6.59	11.32
	female	31	58.19	9.89	68.35	7.04	10.16
	Total	65	54.80	10.63	65.57	7.27	10.77

Table 19

Repeated Measures ANCOVA Summary for Comparing Within Subjects Contrasts for ERAS Score Differences for All Subjects

Source	df	F	Sig.	Partial Eta Squared	Observed Power*
ERAS Pre-Post	1	137.42	.000	.689	1.000
ERAS Pre-Post x GENDER	1	4.744	.033	.071	.573
Error	62				

*Computed using alpha = .05

Between subjects effect. The repeated measure ANOVA procedure was performed to determine whether or not there were statistically significant differences for males compared to females on the ERAS pretest to posttest scores. The results reveal a statistically significant difference between males and females on ERAS pretest to posttest scores. The repeated measures ANOVA yielded an $F(1, 62) = 4.74$ value with an

obtained $p < .03$. The obtained effect size for Eta-squared was .07. According to Cohen (1988), a value of .06 or greater represents a moderate effect size, which means that while the results were statistically significant, the practical implications of the results were small. The results reveal the use of m-FORI resulted in small improvements in the attitudes toward reading for females over males the sample.

Figure 6 presents a visual display of the means scores for males and females on the ERAS pretest and posttest scores. Figure 6 indicates that females had higher pretest mean scores ($\bar{X} = 58.20$) than males ($\bar{X} = 51.71$). Also, Figure 6 graphically shows that on the ERAS females had higher posttest mean scores ($\bar{X} = 68.4$) than did males ($\bar{X} = 63.08$). The males' average pretest to posttest gain was 11.3 as compared to females' average pretest to posttest gain of 10.2, which shows that the males pretest to posttest gain was slightly higher than gains for females.

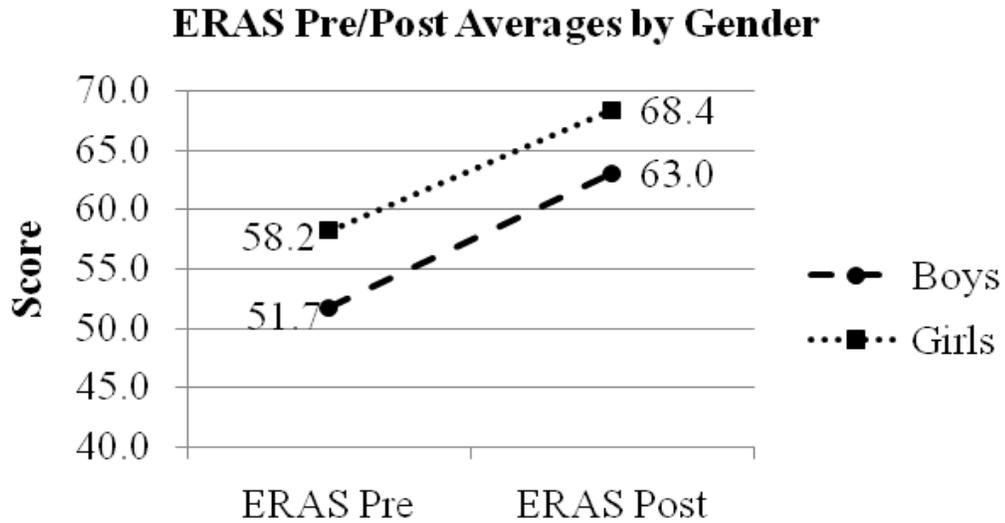


Figure 6. Visual Display of ERAS Pretest to Posttest Mean Scores for Males and Females

Summary of Results

Initial statistical procedures addressed the assumptions for the repeated measures ANOVA. In assessing the normality of the sampling distribution, the Komogorov-Smirnove (K-S) test revealed that the scores obtained on the GORT-4 and the ERAS were normally distributed. The conditions of testing ensured the independence of scores. The Levene test for homogeneity of variance indicated that the groups assessed in the study had equal variances in test GORT-4 and ERAS pretest and posttest scores.

The first question of the study examined whether or not the use of m-FORI would result in a statistically significant difference in the pretest and posttest oral reading fluency scores for African American males as measured by the GORT-4. The results of the repeated measures ANOVA revealed that there was a statistically significant difference in

the pretest and posttest fluency scores for this sample. Therefore, the researcher rejected the null hypothesis.

The second question of the study examined whether or not the use of the m-FORI resulted in a statistically significant difference in the pretest and posttest in reading attitude scores for African American males as measured by the ERAS. The results of the repeated measures ANOVA revealed that there was a statistically significant difference in the ERAS pretest and posttest attitudes scores for males in the sample. Therefore, the researcher rejected the null hypothesis.

The third question of the study examined whether or not the use of m-FORI resulted in a statistically significant difference in pretest and posttest fluency scores for African American males when compared to African American females as measured by the GORT-4. The results of within-subject effect for the repeated measures ANOVA revealed that there was a statistically significant difference in the pretest and posttest oral reading fluency scores for all subjects. The repeated measures ANOVA yielded an $F(1, 62) = 164.54$ with an obtained $p < .001$. Between subjects repeated measures ANOVA showed that the use of m-FORI did not result in a statistically significant difference in the pretest to posttest oral reading fluency scores of African American males as compared to African American females. The gender entry yielded an $F(1,62) = .057$ with an obtained $p < .81$. Therefore the researcher failed to reject the null hypothesis.

The fourth question of the study examined whether or not the use of m-FORI resulted in a statistically significant difference in the pretest and posttest reading attitude scores for African American males when compared to African American females as measured by the ERAS. The results of the within subjects effects for the ANOVA

showed that the use of m-FORI did have a statistically significant impact on attitudes toward reading scores of all students. The repeated measures ANOVA generated a value of $F(1, 62) = 137.43$, which was statistically significant with an obtained $p < .001$. The results of the between subjects analysis for the repeated measures ANOVA revealed a statistically significant difference in reading attitude with females scoring higher than males in the sample. The repeated measures ANOVA yielded an $F(1, 62) = 4.74$ value with an obtained $p < .03$. As a result, the researcher rejected the null hypothesis.

Chapter 5 will discuss these research findings, conclusions, and recommendations for further research.

V. RESULTS, CONCLUSIONS, AND RECOMMENDATIONS

This final chapter will restate the purpose of the study, review the results, draw conclusions, discuss limitations, and provide recommendations for future research.

Restatement of the Purpose

The primary objective of this study was to determine the effects of reading fluency instruction on African American males' oral reading fluency and reading attitude scores and to find out if there were differences in effects of this instruction on African American males and females. Specifically this study had four purposes. The first purpose was to find out if there was a significant difference in pretest and posttest oral reading fluency scores for African American males as measured by the GORT-4. The second purpose was to find out if there was a significant difference in pretest and posttest reading attitude scores for African American males as measured by the ERAS. The third purpose was to find out if there was a significant difference in pretest and posttest oral reading fluency for African American males compared to African American females as measured by the GORT-4. The final purpose of the study was to determine if there was a significant difference in pretest and posttest reading attitude scores for African American males compared to African American females as measured by the ERAS.

Discussion of Results

The first research question sought to find out if the use of m-FORI would result in statistically significant difference in the pretest and posttest oral reading fluency scores for African American males as measured by the GORT-4. The results of the repeated measures ANOVA revealed that there was a statistically significant difference in pretest and posttest fluency scores for the African American males. The pretest to posttest average gain for this group was 11.5. After just six weeks the data indicated the potential of m-FORI for improving the oral reading fluency of African American males.

The second research question sought to find out if the use of m-FORI would result in a statistically significant difference in the pretest and posttest reading attitude scores for African American males as measured by the ERAS. The results of the repeated measures ANOVA revealed that there were positive changes in reading attitude on the ERAS pretest to posttest scores for males in the sample. The pretest to posttest gain for this group was 11.3. After just six weeks of this type of fluency instruction, the reading attitudes of African American males became more positive. This gain indicates that this instructional routine could have positive impact on the attitude of African American males toward reading.

The third question of the study sought to find out if the use of m-FORI would yield a significant difference in pretest and posttest oral reading fluency scores for African American males compared to African American females as measured by the GORT-4. The within-subjects repeated measures ANOVA revealed that there was a statistically significant difference in the pretest to posttest oral reading fluency scores for all subjects. Between subjects repeated measures ANOVA showed that the use of

m-FORI did not result in a statistically significant difference in the pretest to posttest oral reading fluency scores of African American males (as measured by the GORT-4) as compared to African American females. The GORT-4 pretest to posttest overall Oral Reading Quotient rating average for the males in this study moved from below average (pretest) to average (posttest). Interestingly, when examined closely the results seem to show although that females scored higher than males on GORT-4 pretest and posttest, both groups made virtually equal amount of gains. The mean pretest and posttest scores for females were 49.97 and 61.5, respectively. The mean pretest and posttest scores for males were 44.3 and 55.8. The males' average pretest to posttest gain was 11.5 compared to females' average pretest to posttest gain of 11.6. This seems to show that the instructional routine m-FORI has benefits for males and females regarding oral reading fluency, but it does not seem to close the reading gender gap between males and females.

The fourth research question sought to find out if the use of m-FORI would result in a statistically significant difference in the pretest and posttest reading attitude scores for African American males as compared to African American females as measured by the ERAS. The results of the within-subjects effect ANOVA showed that the use of m-FORI did have a statistically significant impact on attitudes toward reading scores for all subjects. The results of the between subjects analysis for the ANOVA revealed a statistically significant difference in reading attitude with females scoring higher than males in the sample. However, when examined closely the results seem to show although females scored higher than males on the ERAS pretest and posttest, males had slightly greater gains than females. The mean pretest and posttest scores for females were 58.2 and 68.4, respectively. The mean pretest and posttest scores for males were 51.7 and

63.0. The males' average pretest to posttest gain was 11.3 compared to females' average pretest to posttest gain of 10.2. The instruction seems to have a more positive effect on attitude towards reading for males than for females. The males' pretest reading attitude mean score moved from an indifferent feeling about reading to a positive feeling about reading. According to the authors of the ERAS (McKenna & Kear, 1990), a raw ERAS score of 50 represents an Indifferent attitude toward reading.

In addition to the statistical results, the researcher also observed important incidental consequences of m-FORI routine that took place during the study. During the study participants appeared to be motivated and excited to reread the text selected for each week, talk about it, and practice repeated reading with a partner. Also, changes were observed in reading attitude from indifference to more engaged responses from all participants, especially boys. Observations also included participants' voluntary engagement in outside research, focusing on the reading selection topic for that week by checking out library books and or bringing illustrations to discuss and share with the class. Moreover, observations also indicated that participants in this study were increasing their knowledge and interest in content area subject matter such as history and science while reading short, informational text. Reading topics such as the inventions of Thomas Edison or the existence of giant squids appeared to spark the participants' curiosity about the subject matter while simultaneously improving their reading fluency and attitudes.

Limitations

The total sample size for this study was 65 students. Therefore, power, the probability of this sample yielding statistically significant results if a treatment difference truly exists, must be identified as a limitation of the study. The likelihood of detecting a treatment effect is increased with large samples. Because the sample for this study was small ($N = 65$), the null hypotheses for this study may have been rejected when in fact they were true. This false rejection of the null hypothesis is referred to as a Type I error. As a result of the power limitation, which is directly influenced by sample size, this study reports both statistical significance and effect sizes. Effect sizes are measures of practical significance, which quantify treatment effects in spite of sample size.

Other possible limitations are the possible threats to the internal validity regarding this study. In this non-experimental design, the participants were not randomly assigned. Instead intact groups of African American children in Grades 2 through 7 who attended a parochial school were provided the treatment. The lack of random assignment precludes the researcher from controlling for all confounding variables that may affect the outcome of the experiment. As such, history, the influence of outside events beyond the researcher's control, is a threat to internal validity. Because the researcher used intact groups, selection bias is another threat to the internal validity of this study. The subjects served as treatment groups only. There was no control group, which therefore indicates there is also a single-group threat to the internal validity of this study. The same group was given the GORT-4 and the ERAS as a pretest and posttest over a span of six weeks. In other words, the pretest measure could have had some affect on the posttest measure, resulting in a repeated testing threat to internal validity.

The generalizability (or the degree to which the conclusions of this study will hold for students) is severely limited. Consumers of this research study should use caution in trying to generalize the results of this study to any population other than the exact population identified due to the restricted range of demographics such as grade, ethnicity, socio-economic status, and geographic location.

The experimenter effect is another threat to the external validity of this study because the researcher, not the teacher, was the only person to implement the treatment. The researcher's motivation and enthusiasm may have affected the participants' receptiveness to the instruction; therefore, increased motivation on the part of the participants may have positively influenced the participants' performance on the GORT-4 and ERAS posttest measures. Consumers who are interested in duplicating this research should take note that the results of the research are limited by this condition.

The final significant threat to the external validity of this study is the extent to which the effects of the implementation of the instruction by the researcher on the posttest GORT-4 and ERAS scores will hold over time, often referred to as interaction of time of treatment and treatment effects. In other words, will the participants in this study maintain an increase in oral reading fluency and improved attitude towards reading over time. This study did not examine the persistence of treatment effects overtime, thus its external validity was limited.

Recommendations

The review of literature in Chapter 2 identified a gender gap evident in reading achievement and a more significant reading achievement gap with African American

boys scoring near the bottom of literacy achievement assessments (ALSDE, 2007; NAEP, 2007). The literature discussed some of the reasons why many males do not read and do not consider reading as an activity such as lack of male role models, no choice of reading topics, and reading not thought of as a masculine activity (Brozo, 2002; Gurian, 2001; Pirie, 2002; Smith & Wilhelm, 2002; Tatum, 2006). According to the literature, reading fluency must be developed for comprehension to occur while the text is being read (Rasinski, 2000). If boys are not reading, especially African American boys, then oral reading fluency cannot be developed and reading comprehension suffers (NAEP, 2007; NRP, 2000). The review of literature included several studies that focused on effective instructional routines for increasing oral reading fluency. Some common features shared across these studies were repeated practice reading of same text, practice reading through social engagement (partner reading), use of short text, and models of fluent reading (Dowhower, 1991; Hoffman & Crone, 1985; Nathan & Stanovich, 1991; Rasinski, 1994; Stahl et al., 1997). This study set out to determine if oral reading fluency instruction had an impact on oral reading fluency scores and reading attitudes of African American students and especially of African American boys.

The results produced by boys in the sample for this study were examined and the data revealed that m-FORI in conjunction with topic choice, short text (Smith & Wilhelm, 2002), social engagement when practicing repeated reading (Rasinski, 1994; Samuels, 1979; Stahl et al., 1997), and modeled oral reading resulted in gains in oral reading fluency and reading attitude for African American males.

Future Directions for Research

Although it is difficult to generalize implications from this study because the sample size was small, the researcher's first recommendation is to increase the sample size in future studies of m-FORI in order to determine if results hold across a larger and more diverse sample of students. Second, the researcher suggests implementing instruction for longer than six weeks using a control group in a parochial school setting. Third, the researcher recommends using a true experimental design to determine cause and effect in order to assess whether the use of m-FORI makes a difference in oral reading fluency and attitude toward reading. A true experimental study requires random assignment of participants to treatment and control groups, which is necessary for obtaining cause-effect relationships between m-FORI and measures of reading fluency and attitude toward reading. A control group would provide a baseline for assessing the impact of m-FORI. Fourth, the researcher recommends the assigned classroom teacher implement m-FORI in order for the instruction to reflect a typical instructional environment. Doing so would minimize the experimenter expectancy and provide a realistic instructional environment.

Conclusions

This study was born out of concern over the reading achievement gap between boys and girls. Multiple sources of reading achievement data clearly indicate that there is a reading achievement gap between boys and girls at the international, national, and state level (ALSDE, 2007; NAEP, 2007; NCES, 2003). Moreover, in Grades 4 and 8, the national and state data reveal that when comparing the reading achievement scores of

African American males to White males and African American females, African American males continue to score near the bottom of the scale on tests of reading achievement. Therefore, based on documented data, the reading achievement gap is most significant for African American males and should be an urgent matter for educators to address and compel them to look for ways to reduce the achievement gap in reading as it pertains to boys.

The results from this study demonstrate the positive effects of fluency instruction on oral reading fluency scores and attitude towards reading of African American students and especially the African American boys. The current study's instructional routine focused on building oral reading fluency by allowing the students to select short, nonfiction reading topics and practice rereading the text while promoting social engagement (Asselin, 2003; Smith & Wilhelm, 2002) in an effort to find a way to reduce the reading achievement gap.

If classroom teachers utilize the instructional routine in this study, they might increase students' desire to read more text and improve their ability to learn from reading. In other words, this study suggests that the strategies used in m-FORI may have a positive impact on reading achievement and the potential to reduce the reading achievement gap that exists between African American boys and their peers.

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APPENDICES

APPENDIX A
PRINCIPAL COMMITMENT LETTER

Principal Commitment Letter

October 5, 2006

Dear Auburn University's Internal Review Board,

This letter is to show support to Mrs. Parichart G. Thornton's Reading Fluency Instruction proposal. I have a tremendous amount of interest in the outcome of her study because reading is the foundation to academic success. I am optimistic that Mrs. Thornton's fluency instruction study has the potential to help African American males. This group of students can benefit significantly from effective means of improving their reading ability. I understand this research will focus on male student; however, I am willing to support this endeavor because I feel Mrs. Thornton's research will offer all our students (both genders) a better opportunity to become skillful readers. Should this research protocol be approved Parichart G. Thornton has been given authority and permission to conduct research with second through seventh graders at Resurrection Catholic School.

Sincerely,

Assistant Principal

Date Signed: October 6, 2006

APPENDIX B
INFORMED CONSENT LETTER



INFORMED CONSENT
for a Research Study Entitled
“Effects of Fluency Instruction on African American Boys and Girls”

Your child is being invited to participate in a research project conducted by Mrs. Parichart G. Thornton, from Auburn University’s Graduate School under the direction of Dr. Susan Villaume. This study will examine how increasing the reading fluency of African-American boys may reduce the literacy achievement gap between boys and girls. Students in second through seventh grades are being invited to participate. This research project has the potential benefit of improving your child’s reading fluency and attitude toward reading. However, Mrs. Thornton cannot promise you that your child will receive any or all of the benefits described.

If you agree to let your child participate, he or she will be given an oral reading fluency assessment and a reading attitude survey at the beginning and end of the project (approximately seven weeks apart). The oral reading fluency assessment and the reading attitude survey will take place in your child’s classroom with the teacher present and will require approximately 25-30 minutes to complete. Because we will only look at fluency and attitude gain scores and averages, all test results will be maintained as confidential information known only to Mrs. Thornton and Dr. Villaume. Your child’s name will not be included on the test data.

If your child participates, he or she will engage in reading fluency instruction directed by the researcher, Mrs. Thornton. Your child will be asked to read text with the whole group or with a partner for 15 minutes three days a week. For at home reading practice your child will read to you for 15 minutes the same passage read at school and present a nightly reading log for you to sign, verifying that your child reads the assigned text. All reading fluency instruction has been approved by the school administrator and classroom teachers and will take place in the classroom during normal classroom instructional time.

If you do not want your child to participate, he/she will be allowed to study as usual with the classroom teacher. Your child can stop taking part at any time without giving any reason and without penalty. You can ask to have any information related to your child returned to you and removed from the research records or destroyed. Information collected through your participation will be used to fulfill an educational requirement (dissertation), published in a professional journal, and a general report will be given to the school.

If your child participates in this study all activities will take place in your child’s classroom in order to reduce the risk of possible test anxiety and other potential discomforts related to this research project. All attempts will be made to help your child understand that the oral reading fluency assessment and reading attitude survey will not affect his/her grades, standing in the class, or ability to pass to the next grade level.

Guardian’s Initials

Participant’s Initials

Possible risks from participating in this study include test anxiety. All attempts will be made to help your child understand that the oral reading fluency assessment, reading attitude survey, and fluency instruction will not affect his/her grades or standing in the class. If you choose your child not to participate he or she will remain with the teacher in the classroom and complete scheduled activities as assigned by the teacher.

If you have any questions I invite you to ask them now. If you have questions later, please call or email Mrs. Parichart Thornton, doctoral student (334-273-9143, hueythornton@aol.com) or Dr. Susan Villaume, faculty sponsor (334-844-6882, villase@auburn.edu) will be happy to answer them. You will be provided a copy of this form to keep.

For more information regarding your rights as a research participant you may contact the Auburn University Office of Human Subjects Research or the Institutional Review Board by phone (334)-844-5966 or e-mail at hsubjec@auburn.edu or IRBChair@auburn.edu.

HAVING READ THE INFORMATION PROVIDED, YOU MUST DECIDE WHETHER OR NOT YOU WISH TO PARTICIPATE IN THIS RESEARCH STUDY. YOUR SIGNATURE INDICATES YOUR WILLINGNESS TO PARTICIPATE.

Participant's signature Date

Investigator obtaining consent Date

Print Name

Print Name

Parent's or Guardian Signature Date

Print Name

APPENDIX C
m-FORI SCRIPT

Researcher's Script (P. Thornton)

Day One

- 1. Today we are going to begin a fun and exciting mission – a mission where we will learn to read like a super oral reader. Together, we'll learn to read through passages saying the words correctly, with the right speed, and expression.**
- 2. You don't have to become super oral reader all by yourself. I will help each of you become a super oral reader. I will set the pace and show you how to read with expression. And your classmates will also be here to help you. Each of you will be assigned a buddy to read with. We will find out who our buddies are in our next super oral reading class meeting.**
- 3. Let's begin today's reading adventure by reading a passage titled (use grade appropriate passage). The researcher will provide a short sentence about the story to get the students interested in the story.**
- 4. Ask questions to activate prior knowledge about the subject of the story.**
- 5. As the researcher prepares to introduce the story, any words that might be difficult for the students will be identified. These words will be written on the board. **Some words in today's passage might be challenging and make you stumble while reading. Here are some of those words.** Read the words on the board with the students and give a short definition if needed.**
- 6. I'm going to model super oral reading for you and you will all be my buddies. Follow along as I read the**

passage the first time. Pay careful attention to the words as I read so that you can echo read the same sentences when it is your turn.

- 7. After Echo Reading- Great! Our mission is accomplished for today! During our next class, you will learn who your buddy will be on Friday and how you and your partner will help each other practice the passage. Don't forget to practice reading your passage at home tonight and Tuesday night with your parent or guardian for your Reading Log.**

Day Two

- 1. During our last class, we began to learn how to read like a super oral reader.**
- 2. You don't have to become super oral reader all by yourself. I will help each of you become a super oral reader. I will set the pace and show you how to read with expression. And your classmates will also be here to help you. Each of you will be assigned a buddy to read with. Today will find out who our buddies are for Friday.**
- 3. Let's begin today's reading adventure by reading a passage titled (use grade appropriate passage). The researcher will provide a short sentence about the story to get the students interested in the story.**
- 4. I'm going to model super oral reading for you and you will all be my buddies. Follow along as I read the passage the first time. Pay careful attention to the**

words as I read so that we can choral read or read together the same sentences when it is your turn.

- 5. After Choral Reading is finished-This will be your buddy for Friday. The two of you will work together to help each other practice your reading passage. I will model on Friday how you practice Partner Reader.**
- 6. Tell students who will be Reader A and Reader B. Reader A will read first while Reader B listens and helps with any words that Reader A needs help with. When reader A finishes reader, then you will switch roles.**
- 7. Great! Our mission is accomplished for today! During our next class, you will learn who your buddy will be on Friday and how you and your partner will help each other practice the passage. Don't forget to practice reading your passage at home tonight and Thursday night with your parent or guardian for your Reading Log.**

Day Three

- 1. During our last class, we began to learn how to read like a super oral reader.**
- 2. You don't have to become super oral reader all by yourself. I will help each of you become a super oral reader. I will set the pace and show you how to read with expression. And your classmates will also be here to help you. Each of you has been assigned a buddy to read with.**

- 3. I am going to model super oral reading with a partner. As I read the passage, I will be Reader A and all of you will be Reader B.**

Researcher will read the first half of passage as determined by the word count and stop for the class Reader B to start reading the rest of the passage. **Reader A, get ready to read, and Reader B, get ready to follow along and time the reading. Remember to pay close attention to the words in order to conquer those challenging words.**

- 4. After the students have practiced the researcher will have them switch roles and practice again.**
- 5. Great! Our mission is accomplished for today! During our next super oral reader class meeting, you will learn how to read a new passage like a super oral reader.**

APPENDIX D
ORAL READING LOG

Oral Reading Log

Student's Code _____

Parents/Guardians, please initial each box

The completion of this oral reading log will verify if your child has read the assigned reading passage out loud to a parent/guardian on Mondays, Wednesdays, and Thursdays.

	Monday	Wednesday	Thursday
Week 1 My child has practiced reading orally the assigned reading passage.			
Week 2 My child has practiced reading orally the assigned reading passage.			
Week 3 My child has practiced reading orally the assigned reading passage.			
Week 4 My child has practiced reading orally the assigned reading passage.			
Week 5 My child has practiced reading orally the assigned reading passage.			
Week 6 My child has practiced reading orally the assigned reading passage.			