

THE IMPACT OF FLUENCY INTERVENTION  
ON THE ORAL READING FLUENCY AND COMPREHENSION  
OF MIDDLE SCHOOL STUDENTS WITH LEARNING DISABILITIES

by

Janice M. Russell

A Dissertation Submitted to the Faculty of  
The College of Education  
In Partial Fulfillment of the Requirements for the Degree of  
Doctor of Education

Florida Atlantic University

Boca Raton, Florida

May 2012

Copyright by Janice M. Russell 2012

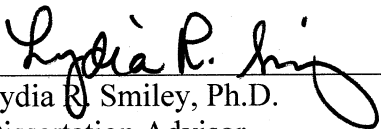
THE IMPACT OF FLUENCY INTERVENTION  
ON THE ORAL READING FLUENCY AND COMPREHENSION  
OF MIDDLE SCHOOL STUDENTS WITH LEARNING DISABILITIES

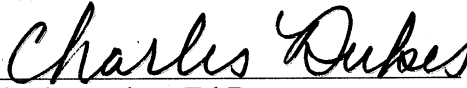
by

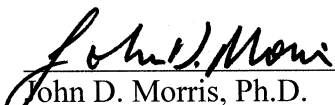
Janice M. Russell

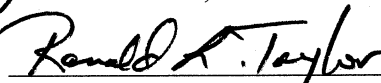
This dissertation was prepared under the direction of the candidate's dissertation advisor, Dr. Lydia Smiley, Department of Exceptional Student Education, and has been approved by the members of her supervisory committee. It was submitted to the faculty of the College of Education and was accepted in partial fulfillment of the requirements for the degree of Doctor of Education.

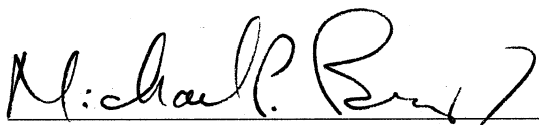
SUPERVISORY COMMITTEE:

  
Lydia R. Smiley, Ph.D.  
Dissertation Advisor

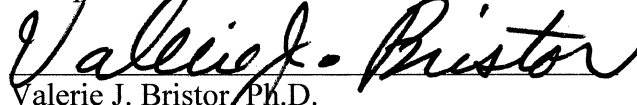
  
Charles Dukes, Ed.D.

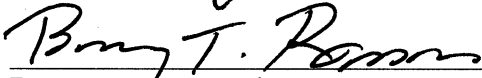
  
John D. Morris, Ph.D.

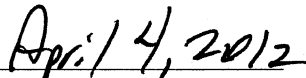
  
Ronald L. Taylor, Ed.D.

  
Michael P. Brady, Ph.D.

Chair, Department of  
Exceptional Student Education

  
Valerie J. Bristol, Ph.D.  
Dean, College of Education

  
Barry T. Rosson, Ph.D.  
Dean, Graduate College

  
Date

## ACKNOWLEDGEMENTS

I would like to express my sincere gratitude and appreciation to all the members of my dissertation committee. I would like to thank Dr. Lydia Smiley for her patience, guidance, encouragement, and support; Dr. Dan Morris for the many times he explained the same process with patience; Dr. Ronald Taylor for guidance and direction; and Dr. Charles Dukes for his editing and writing skills which allowed me to learn. I would also like to thank Dr. Michael Brady for his way of critiquing and editing that allowed me to retain my confidence.

I would also like to extend my thanks to my friends and family who supported and encouraged me with many thoughts, prayers, and kind words. I would especially like to offer my thanks to my husband, Dan, for his ability to remain patient and positive when I was not able. Thank you for listening to my ideas, complaints, and problems without trying to fix them and allowing me to work through everything while you remained by my side. One last thanks goes to my son, Key, who has the amazing ability to make me laugh during the most difficult times and remind me to focus on the important things. The both of you have sustained me through this entire process.

## ABSTRACT

Author: Janice M. Russell

Title: The Impact of Fluency Intervention on the Oral Reading Fluency and Comprehension of Middle School Students with Learning Disabilities

Institution: Florida Atlantic University

Dissertation Advisor: Dr. Lydia R. Smiley

Degree: Doctor of Education

Year: 2012

Proficient reading is a necessary skill for a quality life. While educators would like to believe that most students master the art of reading and can understand what they read, national reports indicate that learning to read and becoming a skilled reader is not mastered by all (No Child Left Behind Act, 2001; NICHD, 2000a). One component of successful reading is the ability to read a text with appropriate speed, accuracy, and prosody. The National Assessment of Educational Progress (Pinnell et al., 1995) reported that 44% of the nation's fourth grade students were not able to read at an acceptable level of fluency that was considered necessary for comprehension. Since the publication of that report, research has shown that with direct instruction and remediation of fluency, students in the elementary grades can increase their reading rate. One the most common fluency intervention techniques is repeated readings (Samuels, 1979). However, most of the studies completed include elementary students and were focused

on increasing their reading rate. Some students are arriving at the secondary level with reading problems which include fluency and comprehension. Therefore, the purpose of this study was to determine the effect of repeated readings on the rate, accuracy, and comprehension of students with disabilities at the secondary level.

This study involved a total of 24 students with learning disabilities in grades 6-9. A quasi-experimental design was used for this study. The treatment group received a total of 20 sessions of repeated reading with immediate feedback, goal setting, and independent practice with graphing of reading rate. The comparison group continued their reading instruction with no fluency intervention.

The results indicate that this combination of repeated readings had a significant influence on reading rate only. The other two variables, accuracy and comprehension, did not improve significantly in the treatment group when compared to the comparison group.

## DEDICATION

This manuscript is dedicated to the struggling readers who have not yet discovered the joys of reading and to the teachers who will teach those very students.

THE IMPACT OF FLUENCY INTERVENTION  
ON THE ORAL READING FLUENCY AND COMPREHENSION  
OF MIDDLE SCHOOL STUDENTS WITH LEARNING DISABILITIES

List of Tables .....	x
Introduction.....	1
Importance of Oral Reading Fluency .....	3
The Dysfluent Reader.....	4
The Fluent Reader .....	6
Repeated Readings .....	9
Current Research on Increasing Oral Reading Fluency .....	10
Statement of the Problem .....	11
Purpose of the Study .....	12
Research Questions .....	12
Review of Literature .....	14
Introduction .....	14
Fluency .....	15
Comparative Norms.....	17
Fluency and Comprehension.....	19
The Struggling Reader .....	25
Interventions for Dysfluency.....	28
Adaptations of Repeated Readings .....	33
Older Dysfluent Students .....	40
Summary .....	46
Method .....	49
Setting.....	49
Participants .....	49



Variables .....	52
Instrumentation.....	52
Procedure.....	54
Pretest for Comprehension .....	54
Pretest for Oral Reading Fluency .....	54
Determining Instructional Reading Level for Placement.....	55
Goal Setting.....	55
Intervention.....	56
Advancement to Higher Level Passages .....	59
Posttest.....	59
Analysis .....	60
Results.....	61
Analysis of Hypothesis One .....	63
Analysis of Hypothesis Two .....	64
Analysis of Hypothesis Three .....	66
Discussion.....	68
Rate.....	69
Accuracy.....	70
Comprehension.....	71
Limitations .....	72
Number of Participants.....	72
Design Flaw .....	72
Independent Practice .....	73
Observations of Participants and by Participants .....	73
Educational Implications.....	74
Suggestions for Future Research.....	75
Summary .....	76
Appendices.....	77
Appendix A National Fluency Norms .....	78
Appendix B Florida Oral Reading Fluency Assessment: Scorer's Sheet.....	80
Appendix C Florida Oral Fluency Assessment: Student's Copy .....	82

Appendix D Sample Passage from Adams & Brown (2007) .....	84
Appendix E Individual Student Data Log .....	86
Appendix F Blank Chart for Graphing Words Correct Per Minute .....	88
Appendix G Completed Graph of Participant’s Reading Rate.....	90
References.....	92

## TABLES

Table 3.1. Demographics of the Treatment Group .....	50
Table 3.2. Demographics of the Comparison Group .....	53
Table 3.3. Averages of the Demographics for the Treatment Group and Comparison Groups.....	56
Table 4.1. Descriptive Statistics of Pretest Scores for Reading Rate, Accuracy, and Comprehension .....	66
Table 4.2. Descriptive Statistics of Posttest Scores for Reading Rate, Accuracy, and Comprehension .....	67
Table 4.3. Analysis of Covariance for Reading Rate.....	67
Table 4.4. Analysis of Covariance for Reading Accuracy.....	69
Table 4.5. Analysis of Covariance for Reading Comprehension.....	71

## **Introduction**

Reading is one of the most essential skills in modern society, yet, for many children, learning to read is a difficult process which may lead to social, personal, and economic limitations. Reading affects many aspects of different people's lives as they become adults. Reading is the foundation on which all other education is built (Moats, 1999). A poorly laid foundation on which other skills are constructed will likely result in an unstable, unproductive, or tumultuous future. It has been documented numerous times that adults with higher literacy skills have a higher rate of earning over a lifetime (Kutner et al., 2007; Rutenberg, 2009). Proficient readers have a better chance of finding employment than basic and below basic readers (National Endowment for the Arts, 2004). Given these few factors, successful and proficient reading should be the goal of all educators, professionals, parents, families, business leaders, higher learning institutions, elected officials, and students.

There are several components of reading that need to be mastered for one to become a proficient reader. One of the distinct skill sets is oral reading. Oral reading can and should be a fluent skill. Fluency in any realm can be described as smooth, graceful movements. The movements are long, uninterrupted strides and are effortless in appearance. If the reading process is examined closely, it is surprising that children learn how to read at all because reading is not natural or easy for most students (Kuhn, Schwanenflugel & Meisinger, 2010; Moats, 1999). It is a set of highly complex

linguistic skills that must be mastered at one level before moving on (Moats, 1999). The process includes a plethora of sub-skills that need to be taught and mastered individually, but also combined to create meaningful reading. If one set of skills is mastered and not combined with other skills, then overall reading success suffers.

The outlook for reading success is on the bleak side. *The Condition of Education* published by the US Department of Education (Planty et al., 2009) shows that there has been no increase in reading scores of 15 year old students from 2000 to 2006. In fact, there has been a loss of 9 percentile points. Keeping this statistic in mind, educators must refocus attention and efforts to instruction which looks at the entire process of reading and all the components as a single entity which produce successful readers. Reading proficiently is an effortful process that can be attained by multiple routes (Stahl & Kuhn, 2002). In order to develop fluency in reading, there needs to be teacher-directed lessons in which children spend the maximum amount of time engaged in reading connected text (Pikulski & Chard, 2005; Stahl & Kuhn, 2002).

Simply, reading fluency is reading with appropriate speed, accuracy, and prosody which leads to understanding of the text. Since the publication of the *Report of the National Reading Panel (NRP)* (National Institute of Child Health and Human Development [NICHD], 2000a), there has been much discussion and research on reading fluency. There is so much discussion among educators that fluency is included in the ‘what’s hot’ categories of Cassidy and Cassidy’s (2008) annual survey of national reading experts. Although reading fluency is a ‘hot’ topic, it is not a radically new concept. It was the topic of publications over a century ago. In 1890, William James (as cited in Rasinski, 2003) wrote about the importance of practice and repetition of skills

that lead to someone mastering a complex act with ease. Then, in 1905, Huey (as cited in Rasinski, 2003) summarized the research of the 1800s and as a result of his review determined that reading could be done more easily with practice and repetition of the skills. The practice and repetition of any skill leads to fluent performance of the practiced skill. Therefore, if readers need to be fluent, then practice and repetition should be a means of achieving oral reading fluency. Current writings from various scholars support this by confirming that when students continue to spend an inordinate amount of time and attention decoding words, it leaves inadequate cognitive resources for comprehension (Adams & Anderson, 1977; Homan, Klesius, & Hite, 2004; LaBerge & Samuels, 1974; Osborn, Lehr, & Hiebert, 2003; Sindelar, Monda, & O'Shea, 1990; Stanovich, 1980 & 1984). In essence, they spend so much time sounding out the words that they lose the meaning of what they just read.

### **Importance of Oral Reading Fluency**

The importance of reading fluency is most evident in recent federal legislation: No Child Left Behind Act of 2001 (No Child Left Behind [NCLB], 2002). This legislation calls for parents, educators, students, and researchers to pay particular attention to the requirement that *all* readers must be proficient with grade level materials by the end of the school year 2014. Researchers and practitioners alike are searching for efficient and practical methods for instructing students who have fallen behind their peers and need more intensive instruction to reach this goal set forth in NCLB.

The definition of fluency has varied over time. The most current definitions include reading rate, accuracy, and prosody (Allington, 2006; Armbruster, Lehr, & Osborn, 2001; NICHD, 2000b) and each definition is slightly different depending on

which element is the focus. Some definitions focus on accuracy, some on prosody, and others on rapid word calling. There is much discussion on the complexity of reading fluency and what the definition should be or what components should be included in the definition (Hudson, Pullen, Lane, & Torgesen, 2008; Kuhn et al., 2010). Currently, there is no universal definition, but what is agreed upon is that with an established definition, it is easier for educators to design and implement successful reading interventions that promote the development of fluency, thereby, assisting in the acquisition of advanced reading skills and comprehension.

### **The Dysfluent Reader**

By second grade, students should be well on their way to becoming fluent readers with rapid word reading and the ability to comprehend the text (Osborn et al., 2003). According to Hasbrouck and Tindal (2006), the average range for fall is 51 to 61 correct words per minute and by the spring second graders should be reading between 79 and 99 correct words per minute. Many readers are below average on fluency scores by the second grade. This can lead to identification as a struggling reader. When students are identified as struggling readers, they can and do benefit from explicit fluency instruction, particularly in the elementary grades (Morgan & Sideridis, 2006).

Christle and Yell (2008) stated that the best time to identify struggling readers and intervene is before they enter second and third grade. It is purported that if schools wait any longer than second and third grade, the struggling reader will develop some underlying problems that can have a domino effect. These can include underdeveloped phonological awareness, word recognition, fluency, and comprehension problems. When a reader starts experiencing more difficulties with reading, he or she can become

unmotivated to learn and to read and experience some behavior problems (Christle & Yell, 2008). As the child ages, the problems and academic difficulties can become more severe if they are not remediated. However, there are many readers who progress through the schools and arrive in middle and high school with reading difficulties.

The current research shows that dysfluent, middle grade students struggle with word recognition, comprehension, and motivation to read. Therefore, they spend less time reading than their peers (Chard, Vaughn, & Tyler, 2002; Mastropieri, Leinart, & Scruggs, 1999; Topping, Samuels, & Paul, 2007). When the good readers read more and the struggling readers read less, this is often referred to as the Matthew effect or good-reader syndrome. The Biblical reference appears in Matthew 25:29, which is commonly translated into “The rich get richer and the poor get poorer.” When used as a metaphor for reading, it suggests that the good readers continue to get better because since they are good readers, they inherently read more. Conversely, the poor readers do not improve because they do not engage in recreational reading (Blevins, 2001; NICHD, 2000a; Samuels & Farstrup, 2006; Stanovich, 1986). If the students stay stagnant in their reading growth, the gap between where they are reading and should be reading widens. When comparing the dysfluent reader to the proficient reader, there are a few obvious differences. The dysfluent reader will not be able to understand and make sense of the more difficult text they will be experiencing in higher grades; they will have fewer new vocabulary words in their arsenal; they will have fewer words they recognize without hesitation.

For this reason, the dysfluent reader will have to accelerate his or her word identification to match the fluency level of his or her fluent peers. A typical gain in



fluent words for a 3<sup>rd</sup> grade student is .5 to .83 of a word per week (Hasbrouck & Tindal, 1992). For example, a 3<sup>rd</sup> grade student who does not have ORF difficulties would gain almost one new, fluent word a week. In contrast, the student with delayed Oral Reading Fluency (ORF) would need to exceed that average gain per week to close the gap between himself or herself and the fluent reader. It has been suggested that students who are delayed in ORF in any age group, need to gain fluency on two words per week rather than the norm for that grade level up through 5<sup>th</sup> grade (Fuchs, Fuchs, & Hamlett, 2007). Gaining double the number of words as his or her peers gain would close the fluency gap. Theoretically, he or she would then be more fluent with fewer difficulties with comprehension and then be more likely to spend more time reading. Unfortunately, due to the lack of research at the secondary level, there is no recommendation that would show educators how many words per week a middle grade student would need to gain fluency in order to close the gap between the dysfluent and the fluent reader.

### **The Fluent Reader**

Fluency does not just allow the reader to move through a passage quickly and read with expression. It is suggested that a fluent reader has better comprehension than the non-fluent reader. Therefore, he or she will spend less time decoding words and have more time to process the meaning of the written word (Samuels, 1979; Samuels & Farstrup, 2006).

The fluent, proficient reader attacks text with automaticity in word calling. The reading is without hesitation and, seemingly, without thought. Automaticity is associated with higher speed and lower effort (Topping et al., 2007). While reading quicker, the thought processes of the fluent reader are reserved for constructing meaning from the

written word. Since word calling and comprehension happen simultaneously, one task has to be automatic because the brain cannot complete two tasks at the same time (LaBerge & Samuels, 1974; NICHD, 2000b). To derive meaning from text, a person has to perform some tasks that cannot be automatic. Some of these tasks could include connecting information to prior knowledge, comparing information to something that has been previously read, visualizing, making inferences, and/or drawing conclusions. If the brain is engaged in comprehension activities, then cognitive resources are not available to decipher the words. As in the case of struggling readers, the brain is occupied with decoding the words and, therefore, is unavailable for applying meaning. Hence, fluency is a prerequisite skill for comprehension (Allington, 1983; Samuels, 1988; Schreiber, 1980).

Fluency does not just allow the reader to move through a passage quickly and with expression, but it is suggested that a fluent reader has better comprehension of the material than the non-fluent reader. He or she will spend less time decoding words and then have more time to process the meaning of the written word (Samuels, 1979; Samuels & Farstrup, 2006). The essential relationship between fluency and comprehension may be new to some educators (Pikulski & Chall, 2005), as comprehension has enjoyed a great deal of attention, perhaps to the exclusion of fluency (Allington, 2006; Rasinski, 2004). Nevertheless, there is evidence supporting the strong correlation between the two (Breznitz, 1987; Deno, 1987; Dowhower, 1987; Hasbrouck & Tindal, 2006; NICHD, 2000; Rasinski, 1990).

What is quite alarming is that in 1995 the National Assessment of Educational Progress (NAEP) (Pinnell et al., 1995) found that 44% percent of American 4<sup>th</sup> grade

students could not read fluently. While that report was alarming, the same reading assessment was repeated in 2002 and reported in The Nation's Report Card. It is reported that in 1992, 61% of the 4<sup>th</sup> grade sample read at least 100 words correct per minute compared to 65% of the sample reading 105 words in 2002. The remaining 35% of the 4<sup>th</sup> grade students are dysfluent (Daane, Campbell, Grigg, Goodman, & Oranje, 2005). Additionally, the study concluded that there is a positive relation between reading rate and comprehension. They found that on average the more words students read per minute, the higher their comprehension score. No Child Left Behind places educators under pressure to improve students' reading performance as measured by grade level assessments by 2014. Thus, some researchers and practitioners have begun to focus on fluency instruction as one component in the classroom because of its critical importance in the development of proficient reading.

The NRP (NICHD, 2000b) identified fluency as one of the five essential components of reading proficiency. In this study, the panel reviewed research pertaining to repeated oral readings and sustained silent reading and their effects on reading fluency. In their search, they found 98 studies on repeated reading and only 19 for sustained silent reading. The panel concluded that repeated oral readings had more documentation and a greater positive influence on ORF than did sustained silent reading.

The results of the NRP (NICHD, 2000b) review of the research found that, of the 14 studies that met the panel's criteria for selection and centered on repeated readings and comprehension, all found clear improvements in ORF with greater improvement with elementary aged students and poor readers. Some of these studies measured the transfer of skills to previously unread material and some did not. Others measured the impact of

ORF on comprehension and while others mentioned it, they did not provide data to support it. The panel's recommendation was that while these studies showed a clear improvement in reading rate, accuracy, and comprehension, it cautions the reader not to infer that repeated readings should be used as the *sole* method of reading instruction. It is recommended that focusing on reading fluency become one portion of a complete reading curriculum (Hasbrouck & Tindal, 2006, NICHD, 2000a; Osborn et al., 2003). The committee suggests that the possibility of transferring the improvements in ORF to new and unfamiliar material exists and is worth examining in future research (Rasinski & Hoffman, 2003).

### **Repeated Readings**

Repeated reading was developed by Samuels (1979) in an attempt to increase ORF after he observed reading fluency problems in the classroom. The repeated reading instructional method requires the student to read a passage for one minute while the teacher scores the student's performance for rate and accuracy. The student then rereads the passage several times alone and then repeats the oral reading for the instructor using the same scoring technique. The idea is that with multiple exposures to the text, the student's rate and accuracy should improve. Rate is defined as the number of words read correctly in one minute and is reported as words correct per minute (WCPM). Accuracy is determined by dividing the number of words read correctly by the number of words attempted in the one minute period and then multiplying by 100 to yield the percentage of words read correctly.

Curriculum-based measurement (CBM) (Fuchs, Fuchs, Hosp, & Jenkins, 2001) is a way of assessing ORF. CBM is a reliable and effective tool to monitor and record

progress of ORF. It is designed to track changes over a period of time rather than mastery of daily or weekly objectives (Deno, 2003; Shinn, Good, Knutson, Tilly, & Collins, 1992). When used to monitor progress, CBM has been shown to positively affect teacher planning and student performance (Fuchs, Deno, Mirkin, 1984; Fuchs et al., 2007).

### **Current Research on Increasing Oral Reading Fluency**

Some of the current research on repeated readings has focused on students with learning disabilities (LD) primarily in the elementary grades, with a limited focus on the middle grades. This lack of focus on middle grades is evident when examining current studies (Kuhn & Stahl, 2003). In this review, 31 studies from 1979 to 1996 on repeated readings were reviewed. Of these 31, only seven included students in grades 6, 7, or 8. Students with LD were included in only two of the studies with middle school students (Fuchs & Mathes, 1993; O'Shea, Sindelar, & O'Shea, 1987). Likewise, Wexler, Vaughn, Edmonds, and Reutebuch (2008) searched for studies investigating the effects of fluency intervention on rate, accuracy, and comprehension with secondary students as participants. After an extensive search, they located only 19 studies with secondary students between 1980 and 2005 and included students with and without disabilities.

Similarly, Morgan, and Sideridis (2006) analyzed 30 single-subject studies targeting students at risk for learning disabilities or identified as having a learning disability. Each of the studies targeted improvement in reading fluency. Of the 107 participants, 74 were in kindergarten through Grade 4 and 33 were in Grades 5 through 12. However, upon closer examination, it is difficult to determine the participants' grade levels because the levels were not listed, a range of ages, or a range of grade levels was

given. The sample of middle school students was limited; therefore the findings cannot be generalized to the middle grade population. What was common among the studies was that the participants had a learning disability or a reading disability. The researchers collectively called this population “struggling readers.” This group is often characterized by reading slowly and haltingly, having poor reading comprehension, and being unmotivated to read independently.

### **Statement of the Problem**

Reading achievement is a national focus, partly due to the passing of the NCLB Act (2002). Educators are searching for a way to improve reading achievement so that all students will be reading at grade level by the end of the school year in 2014. When the report of the NRP (NICHD, 2000b) was published, reading fluency was listed as one of the five major components of reading. The NAEP report (Pinnell et al., 1995) found that 40% of America’s fourth grade students had problems with reading fluency. In 2002, a similar study by the NAEP (Daane et al., 2005) reported that 35% of America’s fourth grade students were considered dysfluent.

Dysfluent readers lose ground in general reading skills when compared to students who are fluent. They fall further behind and have to make more than one grade level of improvement each school year to catch up (Chomsky, 1976; Koskinen & Blum, 1986). Several types of students can be characterized as dysfluent, including students with learning disabilities. Students with LD who struggle with reading often fall behind in school and have great difficulty catching up. Even though fluent readers can read faster, this is not the entire story. Reading also requires one to make a connection between decoding the text and constructing meaning from the text, that is comprehension.

It is widely accepted that higher level reading skills cannot be developed without a strong foundation in oral reading fluency and accuracy (NICHD, 2000a). Only with well-developed fluency and comprehension skills will the students' reading achievement increase enough to meet national standards and goals. Repeated readings may be one research-based instructional method that will raise reading scores.

### **Purpose of the Study**

The purpose of this study is to determine if middle school students with learning disabilities who do not read fluently will improve their reading rate and accuracy scores after receiving explicit instruction in reading fluency compared to similar students who do not receive the instruction. As the available research indicates, younger students with learning disabilities who struggle with fluency respond quite well to the repeated reading intervention. This study will also focus on repeated readings and its effects on reading comprehension. For the purposes of this study, ORF is operationally defined as reading with speed and accuracy (Rasinski & Hoffman, 2003). The intervention will be repeated readings using initial teacher feedback and goal setting immediately followed by independent student practice. If repeated readings lead to improved performance in ORF, then additional analysis will be conducted to determine if, as a result of the increased ORF, students generalize their improved reading comprehension to unread material at the participants' grade level as compared to a similar group that will not receive repeated reading instruction.

### **Research Questions**

- 1.) Will there be a significant difference in the *reading rate* of 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> grade students with learning disabilities who receive explicit repeated reading

instruction with initial teacher feedback and goal setting immediately followed by independent student practice compared to the *reading rate* of 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> grade students with learning disabilities who did not receive explicit repeated reading instruction?

2.) Will there be a significant difference in the *reading accuracy* of 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> grade students with learning disabilities who receive explicit repeated reading instruction with initial teacher feedback and goal setting immediately followed by independent student practice compared to the *reading accuracy* of 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> grade students with learning disabilities who did not receive explicit repeated reading instruction?

3.) Will there be a significant difference in *reading comprehension* between 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> grade students with learning disabilities who receive explicit repeated reading instruction with initial teacher feedback and goal setting immediately followed by independent student practice compared to the *reading comprehension* of 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> grade students with learning disabilities who did not receive explicit repeated reading instruction?



## **Review of Literature**

### **Introduction**

In 1997, Congress charged the National Institute of Child Health and Human Development (NICHD) with the task of assembling a national panel to review and study research-based knowledge on various methods of teaching children to read. From the Congressional order, came the creation of the National Reading Panel (NRP or the Panel) to complete and report on the task (NICHD, 2000a). With the goal clear, the NRP began their work by searching relevant literature that involved experimental and quasi-experimental research regarding selected topics.

When the Panel examined the art of reading in 2000, they looked at what they, as the experts, believed to be the major components of reading, that is, the components that are essential in becoming a skilled, proficient reader. Through regional meetings with parents, teachers, university faculty, students, educational policy experts, and scientists, they determined that there are five elements of reading that were worthy of closer examination. They are phonemic awareness, phonics, fluency, vocabulary, and comprehension. One reason that the NRP chose fluency as one of the chief components of successful readers was because of the 1995 report from the National Assessment of Educational Progress (NAEP) that found that 44% of the nation's fourth graders were dysfluent or lacking proficiency in rate and accuracy (Pinnell et al., 1995).

The subgroup on fluency was focused on providing evidence supporting the effectiveness of two instructional practices of fluency development. The Panel felt that

because of the connection established between reading fluency and comprehension (Kuhn & Stahl, 2003; NAEP, 2002; Rasinski, 2000, 2004; Snow, Burns, & Griffin, 1998), it was necessary to learn more about it so teachers could implement strategies in the classroom that could lead to increased fluency and then proficient reading and comprehension. The subgroup looked at repeated readings and all formal efforts to increase the time students spent in recreational or independent reading.

The Panel found potentially 1,260 articles that met their criteria for repeated readings. They determined that they could not efficiently and thoroughly review that large volume of articles and then limited its search to articles published since and including 1990. The panel eventually weaned the voluminous articles down to 77 possibilities. After analyzing the results of these studies, the final conclusion of the subgroup was that repeated readings had a clear and convincing effect on improving reading accuracy, rate, and comprehension. Therefore, the majority of the subgroup's time and energy was focused on the use of repeated readings. Since the publication of the NRP results in 2000, fluency has appeared in the reading research with greater frequency (Rasinski, 2004; Samuels & Farstrup, 2006).

## **Fluency**

The major basis on which the NRP included fluency in the list of important reading elements is that there is much said about the connection between fluency and comprehension. The Panel defines fluency as “the ability to read a text quickly, accurately, and with proper expression” (NICHD, 2000b, p. 3-1). There are many definitions of fluency and most are based on the context in which it is used, but the

majority of them have the components of rate, accuracy, and prosody as it relates to comprehension (Kuhn et al., 2010).

Once a reader has developed the skill to read without hesitation, then he or she can proceed to develop the skill of applying meaning to the text. LaBerge and Samuels (1974) began researching the model of automaticity, which states that a reader has a limited amount of attention and resources to use to engage in meaningful reading. If the less complex components of reading do not require much attention, then the complex element of reading can receive the most attention. Their work involved college students and determining the speed of recognizing letters, shapes, and words. They focused on the amount of time it took to give a response which translated into how much attention the letter, symbol, or word received from the participant. LaBerge and Samuels concluded through their experiments that learning new words takes time, but when practiced, the new words become automatic and require less of the participants' cognitive resources to identify and name. Automaticity in reading is achieved by repeated, successful exposure to extensive reading materials. They also concluded that reading is made up of a set of sub-skills instead of being one massive process.

LaBerge and Samuels (1974) did not extend their work to comprehension, stating that "the complexity of the comprehension operation appears to be as enormous as that of thinking in general" (p. 320). The aspect of how automaticity or fluency influences comprehension was left to future researchers. LaBerge and Samuels' work has been cited countless times and appears as the cornerstone to many studies involving oral reading fluency and its influence on the understanding of the text (Blevins, 2001; Fuchs et al., 2001; Hudson, Lane, & Pullen, 2005; Pikulski & Chard, 2005; Rasinski et al., 2005).

**Comparative norms.** In 1992, Hasbrouck and Tindal published a table for oral reading fluency using data collected across the country. Their purpose was to provide scores for different grade levels for three times of the year, because previously published norms used only a single score for all year. Hasbrouck and Tindal (1992) decided that since the most growth in fluency comes between first and third grades, that there should be a set of norms that show the difference between where students should be in the fall, winter, and spring.

School districts from eight different geographic locations across the country provided data from a one-minute timed reading of a predetermined passage with which the students were unfamiliar. The passages were at the grade placement level, not instructional or independent level. The information was collected between 1981 and 1990 and included rate and accuracy scores from 7,000 to 9,000 students in Grades 2 through 5. Students from remedial classes, students with disabilities, and students whose primary language was not English were included. What resulted was a range that was presented in percentiles. The 25<sup>th</sup>, 50<sup>th</sup>, and 75<sup>th</sup> percentiles were used for all three time frames.

With this information, teachers and schools now had large scale ORF norms with which they could screen students for placement, refer for interventions, use as instructional guidelines and placements, monitor progress of students throughout the year, and collect data to look at progress over time. The one limit of this set of national norms is that it only included Grades 2 through 5.

Fourteen years later, Hasbrouck and Tindal (2006) collected new data realizing that with the publication of NRP (NICHD, 2000a) more attention and instructional focus

was given to fluency. In the creation of the 2006 national norms for ORF, they extended the grade levels to include Grades 1 through 8. To meet their goal of giving educators reasonably current information regarding ORF, performance data were accepted only if collected between fall of 2000 and 2004 at the end of the school year. The 23 states that participated submitted their data that were collected using standardized curriculum-based methods (CBM) three times a year: fall, winter, and spring. The CBM model is designed to take a quick snapshot of students' fluency scores by listening to a student read for one minute and marking the number of errors. The errors usually include omissions, insertions, mispronunciations, and hesitations on a word for three or more seconds. Self-corrections and mispronunciation of proper nouns are not usually coded as errors. However, researchers and educators may alter the CBM method to meet the needs at the time.

The students who participated in the fluency assessment ranged from students identified as gifted to students with learning disabilities to students who were just learning English. All levels of achievement are represented in the data. Unlike the norms of 1992 where between 7,000 and 9,000 students were assessed, this data collection effort increased the number of samples substantially. The lowest was in the eighth grade winter sample where 3,496 scores were reported, and the highest sample was in the spring for second grade where there were a total of 20,128 scores. A total of 297,522 students between first and eighth grades were assessed.

The presentation of the norms (see Appendix A) was slightly different from the table they published in 1992. This time Hasbrouck and Tindal extended the percentile

ranks to include the 10<sup>th</sup>, 25<sup>th</sup>, 50<sup>th</sup>, 75<sup>th</sup>, and 90<sup>th</sup> percentiles. Scores were represented for the same three time frames.

Based on their experiences, Hasbrouck and Tindal (2006) recommended that scores falling within 10 points above and 10 points below the 50<sup>th</sup> percentile be considered average. They also explained that ORF scores could be used for screening of reading proficiency, diagnosing reading problems related to fluency, progress monitoring over time, and outcome measures to determine if academic goals were met.

### **Fluency and Comprehension**

To continue on the journey of examining the nexus between ORF and comprehension, Roehrig, Petscher, Nettles, Hudson, and Torgesen (2008) examined reading data in Florida. They were able to retrieve these data from the Progress Monitoring and Reporting Network (PMRN), which is a statewide data collecting and reporting system that archives the data for later use in reports and instructional decision-making. PMRN is an archival database that stores data reported several times a year from kindergarten to twelfth grade for over 1.2 million students. Their interest was in the predictive ability of the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) ORF. They wanted to know if the scores from the DIBELS ORF would accurately predict student performance on the statewide standardized assessment, Florida Comprehensive Achievement Test (FCAT) and predict the third grade assessment using the 10<sup>th</sup> edition of the Stanford Achievement Test (SAT-10). They were also concerned with corroborating the levels that are identified by the authors of the DIBELS as students who are at risk for reading failure.

Roehrig et al. (2008) pulled the pertinent reading data on a total of 35,207 third grade students enrolled in Florida's elementary schools that are identified as *Reading First* schools for the school year 2004-2005. The sample is reportedly representative of the third grade population in Florida. The DIBELS ORF was given individually four times during the school year; fall (September), winter 1 (December), winter 2 (February/March), and spring (April/May). Each student read three passages for one minute and the administrator scored the oral reading for rate and accuracy. Omissions, substitutions, and hesitations of 3 seconds or more were considered errors. The median score was reported and stored in the PMRN database.

The FCAT is a standardized, group administered test that yields a reading scale score ranging from 100 to 500 and level scores where level one and two are below grade level and levels three, four, and five are considered passing. Both the FCAT and SAT-10 were given during the February/March testing window.

After the analysis of the data, it was determined that third grade students' ORF scores in Florida are a good predictor of success on the FCAT and SAT-10 when the assessments are administered in the spring. Furthermore, the ORF score that had the highest correlation was the February/March administration. The researchers looked at each set of ORF scores to determine where the cut scores should be for fall, winter, and spring. They assert that students who read less than 53 WCPM in the fall, less than 62 WCPM in the December, and less than 70 WCPM in February/March are at high risk for developing below-grade-level reading achievement. This information is critical for educators who work in the elementary grades. Teachers can use the cut scores for

targeting students for additional interventions, setting ORF goals, monitoring progress, and planning instruction.

Unlike Roehrig et al. (2008), Kim, Petscher, Schatschneider, and Foorman (2010) completed a similar study but included first and second grade students over multiple years. The study was done with the primary purpose of determining whether or not students' performance in reading sub-skills at the beginning of Grades 1, 2, and 3 made a contribution to their reading comprehension scores at the end of the year and at the end of the third grade. The growth rate within the sub-skills was also examined to determine if it made a contribution to reading comprehension at the end of each school year and at the end of third grade. If the performance did contribute to comprehension, they determined the extent of the impact. The third grade was chosen because of its pivotal role in determining the promotion or retention of students in Florida.

Data were extracted from the statewide PMRN system in Florida. Kim et al. (2010) collected data on 12,536 students who were consistently enrolled in kindergarten through third grade from 2003 to 2007. The scores from the DIBELS subtests for phonological awareness, letter-naming fluency, phonological decoding fluency, and (ORF) were collected on each of the identified students. The comprehension scores from the spring administration of the SAT-10 were also collected.

The data were analyzed to see if the initial scores or the growth rate had an impact on the year end comprehension scores and the end of the third grade comprehension scores. Their findings indicated that the ORF initial scores and growth rate for each grade level had the dominant impact over phonological awareness, letter-naming fluency, and phonological decoding fluency. Additionally, the results showed that the growth rate



in the first grade provided the most information for the end of the year SAT-10 scores and the final comprehension score in the third grade. In the second grade, the initial ORF score (fall) was most strongly related to the second and third grade reading comprehension. The third grade data indicated that the fall scores of ORF were more reliable as a predictor of comprehension than the second and third grade growth rates.

The implications of the findings show that the greatest growth of ORF occurs in the first grade and that ORF is positively correlated to reading comprehension. The authors indicated that this information is extremely important to teachers because it can identify students who may benefit from early interventions. This study provides support for monitoring the growth over the year of students who score low on the initial ORF, particularly in the first grade.

Another similar study from Koskinen and Blum (1986) examined the ORF of second grade students in Minnesota. The researchers were interested in determining the relationship between ORF and comprehension. Eighty-four second grade students were randomly assigned to four conditions. The students in each treatment group read unfamiliar, grade-level passages from the fourth edition of the Qualitative Reading Inventory (QRI-4). Each condition had a different percentage of the words scrambled to systematically slow down the participants' ORF. The first condition contained 0% scrambled words, the second had 10% scrambled words, and the third and fourth conditions contained 20% and 30% scrambled words, respectively. At the completion of the oral reading, there were eight comprehension questions. To be considered passing, seven of the eight (87.5%) questions needed to be answered correctly. Each student in each condition read only one passage.

The results support the claim that a student's ORF affects his or her comprehension in the second grade. It also provided an important piece of information that educators can use in determining if a student is capable of comprehending the material and setting a goal for those who are not. After analysis of the data, the authors determined that for second grade students to comprehend grade level reading material, they would need to read at least 63 WCPM. Knowing this piece of information can allow teachers to identify and work with students who are reading below that target number in increasing his or her ORF to ultimately increase comprehension. The one major limit to this study is that it provides data for second grade only. However, it does clearly show the importance of ORF in young readers.

Stahl, Heubach, and Cramond (1997) undertook a long-term project with second grade students when they worked with two elementary schools to rearrange the focus and lessons in their basal reading series. The purpose of the study was to focus on fluency of instructional level materials while always keeping comprehension as the end goal. Prior to the rearrangement of the textbooks, fluency was not included in the instruction. The authors modified the basal reading series by increasing the number of readings and rereadings. Other components remained unchanged. For each story selection, the teacher read the story aloud and discussed it with the students to maximize comprehension. If children needed additional help, they were pulled aside for echo reading with the teacher. In this scenario, the teacher read one section at a time, then the student or students repeated exactly what was read. The second day, the students selected a partner and read the story again, alternating reading with each other while monitoring and providing assistance. The teacher monitored the paired reading while circulating

around the room. On the third day, the students worked in the series journals. This was also a day for the teacher to work individually with students who were demonstrating comprehension problems. The teachers would reread the story or portion of the story with the student or assign the students to reread it at home. In addition to the classroom reading time, the students were instructed to read the story orally one or two times at home to an adult. The students also read a book of their choosing at home. While each student read a book at home, the teachers also instituted a free reading choice time at school where the students were able to read material of their choice for 15 to 20 minutes a day. The researchers' purpose was to increase the reading time and amount of reading done by the students and expose them to the same stories multiple times so the students became familiar with the words and then determine if there was any effect on ORF.

The results were encouraging. They analyzed the data for a variety of effects of the repeated reading, but the one that will be discussed here is the effect it had on ORF, particularly rate and accuracy. They found that the students who began the second grade reading at or above the primer level, made the most gains in rate. The average word per minute gain was 10 from October to February and the growth from February to May was inconsistent, thereby, identifying that most growth for reading rate, accuracy, and comprehension occurs from October to February. However, with the population of students who began the second grade reading below the primer level, the results were mixed. About half of them made adequate progress and half did not make any progress. The authors did not discuss what constituted adequate progress nor did they discuss the number of students who were encapsulated in this group. However, they did add that the reading and/or fluency problem may have been more severe for that group. As a result,

the needs were more intensive and the interventions required were more extensive than was provided in this study.

Unfortunately, not all students are fluent, proficient readers and these students sometimes do not respond to traditional or even specialized interventions. Since it is established and accepted that ORF has an effect on comprehension, most students who have fluency problems will likely have overall reading comprehension problems. For this group of students, it is important for them to be identified early and to participate in well-planned instruction where their progress will be monitored and instruction can be changed if needed. These readers may be referred to as struggling readers, low performers, poor readers, low achievers, remedial readers, at-risk, and even non-responders.

### **The Struggling Reader**

What causes a child to become a struggling reader and when in development it occurs is not known. What is known are the observable characteristics that allow an educator to identify students who are ‘not getting’ it. One of the most frequently visible signs is slow, dysfluent reading (Rasinski, 2000). Teachers have heard readers struggle with reading smoothly. Their reading is choppy, word-by-word, and awkward to listen to. When teachers identify the students who are having difficulty reading, they often rely on the oral reading as the first indicator rather than test scores or worksheets and the majority of students who are identified as poor or struggling readers are identified in elementary school – usually in first or second grade (Hasbrouck & Tindal, 1992; Roehrig et al., 2008). What teachers report is that the students read slowly, and their reading is labored, inexpressive, and often unenthusiastic (Rasinski, 2000).

As the struggling reader marches on through the grades and the problem is not addressed sufficiently, it is likely that the dysfluency will continue on through high school (American Federation of Teachers, 2004; Juel, 1988; Shaywitz & Shaywitz, 2004). The gap between the struggling reader and the dysfluent reader will continue to expand or remain steady. One reason is because the struggling reader is reading significantly fewer words per minute than his or her peers. If a proficient reader takes an hour to read an assignment, then the struggling reader may take two hours or more to read the same material and will most likely remember less of what he or she read. It would make sense that the struggling reader would read less as a whole, because he or she gets frustrated with the slow process of reading. The reading for fun that proficient readers do does not occur with the struggling readers. The struggling reader will not have the confidence he or she needs to attack the advanced reading in the upper grades. If a fluent reader reads more words and reading more words enhances fluency (Rasinski, 2000), then the dysfluent reader who reads less will not improve his or her fluency and therefore will read less over time. That makes it critical that oral reading fluency is identified, addressed, and corrected, preferably early in the students' school years. However, if a child struggles with fluency in secondary school, it still needs to be addressed so the struggling student has a chance at using his or her reading skills to learn.

The National Assessment of Educational Progress (NAEP) is a Congressionally mandated assessment of the nation's educational progress in various subjects for Grades 4, 8, and 12. These assessments are done periodically and data are compiled, evaluated, and disseminated. In 2002, a general study of students' overall reading performance was completed. At the fourth grade level, there was an additional study titled Fourth-Grade

Students Reading Aloud: NAEP 2002 Special Study of Oral Reading. In this study (Daane et al., 2005) the researchers worked with 1,779 students in the fourth grade during the spring of 2002. These students already participated in the main reading study the week prior so the participants had comprehension scores. The students read a passage that they had previously read in the main study; their oral reading was recorded on a digital recording device, and was later analyzed for rate, accuracy, and expression. The three types of errors that were recorded were omissions, insertions, and substitutions.

When the data were analyzed, it was found that 35% of the participants read at 104 words correct per minute (WCPM) or fewer in the first minute of reading and 65% read at 105 WCPM or more. According to Hasbrouck and Tindal (2006), the normal reading rate for fourth grade students in the spring is 123 WCPM. The researchers compared the oral reading results to the main reading assessment and found that accuracy, rate, and expression while reading orally are positively related to comprehension.

The National Assessment Governing Board (NAGB) that oversees the assessment, created four levels of overall reading abilities: below basic, basic, proficient, and advanced. The scaled scores on the main reading assessment are based on a scale range of 0-500: advanced level – 268-500; proficient – 238-267; basic -208-237; below basic – 207-0. The slower the passage was read, the lower the score on overall reading assessment. For students who read less than 80 WCPM, their average scaled score was 185 (below basic). Students who read between 80 and 104 WCPM had an average scaled score of 207 (one point below basic). Students who read within the range of 105-129 CWPM had an average scaled score of 225 (basic). The last group who read 130 or more

WCPM fell in the proficient range with an average scaled score of 244 (proficient).

Thirty-five percent of the participants read less than 104 words per minute and had an overall reading score of below basic. That is, 623 students of the 1,779 were dysfluent and scored in the below-average range on reading achievement.

Now that the education world has this information, what should be done with it? The literature provides descriptions of the struggling readers, informs where the struggling reader is likely to score on assessments, provides data that can predict achievement, allows students to be monitored, and provides valuable information that can guide instruction. Currently, there are a plethora of studies that test interventions for low reading rates and accuracy.

### **Interventions for Dysfluency**

Based on the study completed by the National Reading Panel (NICHD, 2000b), what should be looked at closely is repeated readings. As previously discussed, after the Panel's review of 1,260 potential research articles, they formally reviewed and studied 77 of them. The conclusion was that repeated readings is an inexpensive methodology that does not need special equipment or curriculum to use in classrooms. They also found that repeated readings is an effective tool in improving a variety of reading skills including rate and comprehension. Their review of the articles showed that repeated readings helped improve students' reading abilities particularly with students through the fifth grade.

As discussed previously in LaBerge and Samuels (1974), the theory of automaticity states that readers need to be automatic in their oral reading so the thought processes are free to derive meaning and make connections within the content of their

text. As a natural extension of that theory, Samuels (1979) continued his work with automaticity and its relation to students who are struggling to read fluently and to comprehend. Through his earlier work, Samuels knew that beginning readers are not automatic in their decoding and traced word recognition through its three levels. He stated that teachers can help students achieve word automaticity by providing instruction on word recognition and by providing time and motivation to students so they practice the words they can recognize so the words become automatic. He and his colleagues began developing an instructional practice where there were activities for students that involve them in an extremely high level of performance.

Samuels compared teaching reading fluency to training of athletes and musicians. For athletes and musicians to become skilled enough to compete professionally, they practice individual skills until they become accurate and then continue practicing to the point where the movement or action becomes automatic. Applying that reference to reading, it was his contention that giving students the necessary time to practice the skill of fluency to the point of mastery is essential in developing fluent, proficient readers.

He began working with students who were struggling readers emphasizing increasing reading speed, or rate. The approach was simple. Students were given easy material to read to an assistant. The assistant recorded the words correct per minute (WCPM) and the accuracy with which it was read. Accuracy was defined as the number of words read correctly divided by the total number of words and then multiplied by 100, which yields a percent. The student took the passage aside and practiced reading it to him or herself. Then the student returned to the assistant and read it again. The process was repeated until the student read at 85 WCPM at which point he or she received a new



passage and began the process over. After multiple sessions the reading rate at the initial session of a new passage was higher than the previous passages' initial reading rate and the number of rereading sessions it took to reach 85 WCPM decreased as the student progressed through the project. This practice became known as repeated reading. In the beginning, Samuels designed it so the words per minute goal was established at 85 WCPM and the student kept rereading the passage until he or she reached that goal. Through other research, educators began experimenting with different aspects of the method and with varying the participants in the studies to see if the method could be applied to a broad range of students.

Attempting to validate the repeated reading method, Herman (1985) designed a research study that included eight "less able, nonfluent" intermediate students. These students were in a remedial reading class and had scored in the 2<sup>nd</sup> to 17<sup>th</sup> percentile on a standardized reading test and were reading between 35 and 50 WCPM. The passages that were used for the repeated readings were at the participants' instructional reading level. Each student practiced reading silently for 10 minutes and then read aloud to the researcher. Each student's reading was recorded and analyzed for WCPM and accuracy with the rate being plotted on a bar graph for visual representation for the participants. Based on Samuels' (1979) work, the ORF goal was set at 85 WCPM for each passage. Most of the students took four days of practice before they reached mastery and were able to move on to the next passage. The study concluded when each participant read five passages to mastery, which took an average of 21 days.

The results showed a significant increase in reading rate within the stories and from the initial reading of story one to the initial reading of story five which indicates the

practice effect carried over to initial reading of new passages. The average rate of the initial reading of story one was 47 WCPM and the average rate of the initial reading for story five was 69 WCPM. As the students' rate increased, the error rate decreased and the average accuracy score changed from 87% to 92%. The author concluded that repeated readings has a significant and positive effect on the reading rate and accuracy of less able, dysfluent intermediate-aged students which validates Samuels' (1979) work. The recommendation the author made for classroom teachers of older, dysfluent readers is that repeated reading is a viable and reliable solution.

O'Shea and Sindelar (1984) used repeated reading to test the hypothesis that if students were told to either focus on speed and accuracy or to focus on comprehension, the effects of repeated readings would yield different results. For this study, they worked with 30 third grade students who were reading at or above grade level. They were given three passages and were told to read them once and then again either one, three, or seven more times. Half of the participants were told to read as quickly and accurately as possible and the other half were told to remember as much as they could about the passage.

The results showed that the group reading for speed and accuracy made more gains in reading rate. The group who was reading for comprehension showed better understanding of the passage. But the speed and accuracy group made gains in their comprehension in spite of not being given the comprehension cue. The implications were that for third grade students reading at or above grade level, repeated readings had a desirable effect on their reading rate and comprehension. The added finding was that the gains made from reading three to seven times in either group were not significant. The

majority and the more significant gains in rate and comprehension occurred after rereading three times.

Several years later, O'Shea et al. (1987) repeated their research with a different group of participants and altered the method slightly. This time they worked with 32 students who were identified as having learning disabilities (LD) and received some level of special education services. These students were in Grades 5 through 8 and from two different geographical locations. The range of their IQs was 73 to 120 with a mean of 91. Each student had a grade equivalent reading score and the range was 1.2 to 6.0 with the mean of 2.94. Their reading achievement was anywhere between two and five years below grade level. O'Shea et al. (1987) took a baseline of the participants' words per minute rate from reading a fourth grade level passage. The students read the passage and the administrator coded the errors: omissions, substitutions, and mispronunciations. The number of words read was divided by the total time it took to read to yield a word per minute score. The baseline range was 34 wpm to 156 wpm with a mean of 75.

The purpose of the research was to determine if students with learning disabilities respond differently to attentional cues. The students were assigned to two different conditions. The first condition was that before they read, this group was individually told to read as quickly and accurately as possible. The second group was told to remember as much as he or she could because at the end the researcher was going to ask them questions. Within the groups, the students were given the same passages and were told to read them once and then again. Different from Samuels' (1979) procedure, O'Shea et al. (1987) had the students read the passages one, three, or seven times. The number of rereadings was randomly assigned.

Students in both groups read progressively more words per minute than previously and the rate increased with the increasing number of rereadings. Also, within the comprehension group, the more times a student read the passage, the more comprehension increased. However, there was no difference between the cue for speed and accuracy group and the comprehension cue group in terms of reading rate. Both experimental groups showed that repeated readings positively affected reading rate and comprehension.

This research also showed that there was no significant difference between students reading the passage three times or seven times. The authors concluded that when teachers are using repeated readings in the classroom, there is no value to having the students repeat the reading more than three times. O'Shea et al. (1987) fine tuned a step in Samuels' (1979) repeated reading method where he initially had the students read until reaching a predetermined mastery level. O'Shea et al. (1987) presented data that show the students will get the same benefit from repeating the passage only three times. This is the same result that was obtained in O'Shea and Sindelar (1984).

### **Adaptations of Repeated Readings**

Over the years, there has been more research done with repeated readings and what modifications could be made to the method and how it effects the reading achievement of students. For example, Chafouleas, Martens, Dobson, Weinstein, and Gardner (2004) completed a study including three different versions of repeated reading: repeated reading; repeated reading with performance feedback on WCPM; repeated reading with performance feedback on WCPM and contingent reinforcement.

The participants were three elementary students. Two were in the second grade with no learning disabilities and the third had a learning disability (LD) and was served in a self-contained classroom with a special education teacher. Passages at the second grade level were used for all three conditions. Each student participated in each of the repeated readings conditions. They kept reading the passages within the condition until the mastery criterion was met for both rate and accuracy. The researchers were interested in which treatment condition would have the greatest effect.

What they found after completing the study was that performance varied across participants. The first conclusion was that simple repeated reading was most effective for students who started with a high accuracy rate and low WCPM rate. Their second conclusion was that repeated reading with performance feedback and contingent reinforcement did not show any significant gains across subjects. Their last conclusion was that repeated reading with performance feedback was most effective for reading rate. The feedback was directed at the WCPM and not the error rate. Findings in Chafouleas et al. (2004) suggest that effects of repeated readings may be contingent upon the starting levels in reading rate, accuracy, and comprehension. This study did not include comprehension as a variable.

Another study that did include comprehension as a dependent variable as well as rate and accuracy was conducted by Yurick, Robinson, Cartledge, Lo, and Evans (2006). The purpose of their study was to examine the effects of paired repeated readings on students' rate, accuracy, and comprehension. They reported on three different experiments that occurred at different times within the same school but with different

participants. Their rationale for this was to replicate the findings across grade levels and settings, while modifying some components of the intervention.

At the beginning of each study, the participants were individually administered the current edition of the Woodcock-Johnson Tests of Achievement. The treatment conditions were the same in the three studies. The students participated in a 10-minute sustained silent reading (SSR) period on a passage at their grade level placement. After the 10 minutes, the targeted students were taken into the hallway and they read the passage again and the researcher covertly scored it for reading rate and accuracy. After reading, the students answered five predetermined comprehension questions. The second treatment condition was the paired repeated readings (P-RR). Each targeted student was paired on a rotating basis with another targeted student. The timer was set for 10 minutes and they took turns reading, alternating by paragraphs. At the end of the paired repeated reading, each participant was taken into the hallway and he or she reread the passage. Scores were covertly recorded for rate and accuracy and five comprehension questions were asked. During the P-RR intervention, the participants continued to read the passage until they achieved mastery which was determined by grade level: fifth grade mastery was 180 WCPM with 10 or fewer errors; fourth grade mastery was 180 WCPM with 10 or fewer errors; third grade mastery was 145 WCPM with 10 or fewer errors. Once the participants achieved mastery on three different passages within the level, they moved up to the next level.

Overall the findings indicate that the SSR condition did not produce improvement in reading rate. All three experiments showed that the rate was consistently low and steady for each participant with slight increases in accuracy and comprehension. For all

grade levels involved in the studies, the data showed all participants increased in rate, accuracy, and comprehension in the P-RR phase over the SSR condition. The authors noted that although the ORF increased rapidly during the P-RR phase, the accuracy did not suffer in spite of the level of the passages increasing in difficulty. In experiments two and three, the authors added a generalization test after the P-RR sessions. This added assessment showed that students' skills learned during the P-RR transferred to previously unread passages at the same level. On the achievement tests at the end of the study, all students showed improvement ranging from several months to almost two years growth on reading comprehension. As a result of these findings, the authors recommend early identification and intervention, because the data show that gains can be made for rate, accuracy, and comprehension for students in elementary school. They also recommend extensive practice and engagement in reading with immediate feedback on performance. They stated that because of the flexibility of P-RR and cost effectiveness, P-RR would be an appropriate intervention for elementary classrooms.

In another study where repeated readings was compared to another strategy designed to increase ORF, Rasinski (2001) worked with 20 third grade, average readers to determine if there was a significant difference in the effect of repeated readings and listening-while-reading on the participants' ORF. The study was eight sessions in duration and the students worked with two passages. First, they were paired with like-ability readers and one was assigned to be the repeated reader (RR) and the other as the listen-while-reading (LWR) subject. On day one, each student read a passage and it was analyzed for rate and accuracy by the teacher. Omissions, mispronunciations, substitutions, insertions, and hesitations longer than five seconds were counted as errors.

Days two and three consisted of the RR students reading their passage and the LWR students listening to the teacher as they read along. The ten pairs never read the same passage. Day four was the posttest when the teacher worked individually with each student who read for one minute and the readings were scored for both speed and accuracy.

The results of the brief intervention indicated that while the participants made gains in ORF during both strategies, there was no significant difference in the rate and accuracy between the RR group and LWR groups. The gains for the RR group were 18.95 WCPM and 1.85% in accuracy. The LWR group gained 13.30 WCPM and 2.05% in accuracy. Rasinski (2001) stated that neither method showed superiority in its effects on ORF. The study further confirms findings that RR has a positive effect on ORF. However, there are some noteworthy limitations. This study involved third grade students who were average readers, while many of the problems teachers have are with the below average readers. The study did not evaluate a transfer effect to new, unfamiliar reading passages. The gains indicated were from practiced material, so there is no information regarding the transfer effect. The author does acknowledge some of these and recommends that the conclusions be interpreted with caution.

Begeny, Daly, and Vallely (2006) used repeated readings (RR) with an error correction method, phrase –drill (PD) with error correction, and reward (RE) to determine, like Rasinski (2001), if one method was superior over the other. In the study, the researchers used the conditions as alternating treatment design on a single participant. The 8-year-old, third grader began the study by completing fluency probes using unfamiliar passages that were read for one minute and were scored for WCPM and



accuracy which determined the baseline. The errors that were noted are omissions, substitutions, transpositions, mispronunciations, and hesitations longer than 3 seconds. During the RR condition, the participant read a passage twice to himself and then on the third time, he read it aloud as it was scored for WCPM and accuracy. During the PD condition, he read the passage for 1 minute and then the researcher corrected his errors and he had to reread the missed words within a three to five word phrase. He had to read the phrase three times correctly, before moving on to the next phrase. During the RE stage, he was able to choose a reward (either tangible or privilege) if he read the new passage with more WCPM and with same or better accuracy. The passages in each intervention were chosen to be one quarter to one half a grade-level higher for each successive passage.

RR and PD both showed a positive effect on the participant's ORF. The data for RR indicate that it was more effective for increasing the reading rate, and data for the PD phase showed it was better at improving reading accuracy. RE was not significantly effective in improving either rate or accuracy although it did produce higher results than the baseline. It is evident when looking at the data, that the participant's ORF showed a downward trend across the passages within each condition. The authors attribute this to the increasing difficulty of the passages, but they also indicate that it may be due to the lack of effectiveness of the interventions over an extended period of time. They recommend future studies look at the long-term effects of both RR and PD.

Twelve students with learning disabilities in grades two through five participated in a study by Rashotte and Torgesen (1985). The research was focused on the effectiveness of repeated readings (RR) and non-repetitive reading (NRR) on the

participants' ORF. When the participants were in RR condition, they read seven passages four times each for a total of 28 readings. When they were in the NRR condition, they read 28 passages one time each.

When the information was analyzed, it showed that the mean increase in reading rate in the RR condition was significantly greater than the mean increase in the NRR condition even though both produced increases. While the decrease in errors was significant in the RR condition, the NRR condition did not have a significant decrease in error rate. As in the Chafouleas et al. (2004) study, it appeared that students with lower ability as evidenced by pretest scores show greater increases in reading rate than those with higher reading abilities. They also noted, as did Chafouleas, there was some variability in the data; showing some students increased their fluency while others were unchanged. The researchers suggested their data support the assumption that some students respond better and differently to diverse instructional techniques.

In previously discussed studies (O'Shea et al., 1987), it was observed that the students with learning disabilities appeared to have a variation in scores and responses to cued instructions. A similar study completed later examined the effects of repeated reading for students with LD and non-disabled students of similar reading ability (Sindelar et al., 1990). The research was designed to see if students with LD had significantly different scores compared to peers without disabilities who were matched on reading performance scores. Twenty-five LD and 25 non-LD third graders participated in the study. The researchers screened more students than were included to attain a sample population that was closely matched in WCPM, error rate, and comprehension of screening material. The participants read two passages at the third grade reading level

while the examiner sat across the table and recorded errors and then asked the comprehension questions. One of the passages was only read one time and the other passage was read three times before answering the questions. The authors' primary interest was to determine if there was a significant difference in the performance of the students with LD and the performance of the students without LD.

Based on their screening scores, all the participants were grouped for comparison purposes only into one of four different categories: mastery level LD ( $>100$  WCPM), mastery level non-LD ( $>100$  WCPM), instructional level LD ( $\leq 100$  WCPM), and instructional level non-LD ( $\leq 100$  WCPM). The results showed that the students' beginning level and the number of readings were significant in relation to the increase in reading rate. The research revealed the effects of repeated readings for students with LD and readers without LD were comparable when the participants were closely matched in their beginning skills. The authors state that as a result of their study teachers can expect their students with learning disabilities and their most able readers to benefit from repeated readings.

### **Older Dysfluent Students**

Beginning readers and struggling readers are not to be confused (Allington, 2006). It can be assumed that the struggling reader has previously learned some skills unlike the student just learning. Therefore, the instruction for the struggling readers tends to be different than initial reading instruction. Most students are identified as having reading problems in the early elementary grades (Hasbrouck & Tindal, 1992; Roehrig et al., 2008). Once identified, these readers need intensive and explicit instruction to modify and remediate their reading problems and accelerate their progress (Denton,

Fletcher, Anthony, & Francis, 2006; Vaughn et al., 2009). However, Rasinski et al. (2005) reported that problems with ORF can manifest anywhere from second to eighth grade. Dysfluency at the secondary level is a good indicator that there may be a problem with overall reading achievement.

The picture for struggling readers looks quite grim as they get older. Morris and Gaffney (2011) report that students above the first grade require speed and rhythm while reading to enjoy reading, concentrate on reading, and complete reading assignments. Yet, NAEP (Daane et al., 2005; Pinnel et al., 1995) found that 44% of fourth graders in 1995 were dysfluent and 35% of fourth graders were dysfluent in 2002. The lowest 30% of the students who are dysfluent are at the most risk for long-term reading difficulties extending into their adult years (Kim et al., 2010; Pressley, 2006). Reading rate usually increases as students mature, but for some students fluency is an issue well into high school (Rasinski, 2004). Juel (1988) found that poor readers identified in first grade were still poor readers in the fourth grade. The American Federation of Teachers (2004) report that there is a 90% chance that poor readers in first grade will remain poor readers throughout their school years if they do not receive instruction aimed at fluent, proficient reading. Despite these reports from published research there are other reports that provide documentation that older students can progress and improve fluency and comprehension.

Vaughn et al. (2009) investigated whether or not the size of the intervention group was relative to the effect of the intervention. They worked with 486 seventh and eighth grade students who were identified as struggling readers based on their performance on the statewide standardized assessment. The intervention used was a multifaceted

academic approach which addressed word study, fluency, vocabulary, and comprehension. The two treatment groups were small groups (five students, one teacher) and large groups (between 12 and 15 students, one teacher). The comparison groups were the rest of the school's reading classes that had between 12 and 15 students with one teacher. The treatment lasted the entire 2006-2007 school year.

Although all three groups made progress, the gains associated with the treatment or the size of the groups were not significant. However, what is particularly important about the study is the observation that was made. The authors stated, "Our clinical observations revealed that these students were significantly malnourished with respect to their understanding of word meanings, concepts, background knowledge, and critical thinking" (Vaughn et al., 2009, p. 952). They found this important because while the intervention addressed the skills they were lacking, the time spent with the intervention was the same amount of time as the comparison groups. Even the authors stated earlier in the article that older students with reading difficulties require adequate time and intensive interventions to make accelerated gains. The focus of the intervention was on the size of the treatment groups while the length of the intervention remained the same as the comparison groups which was the regular class period of 45 to 50 minutes per day.

Based on the outcome of their study, the research team made several recommendations for the instruction of middle school struggling readers. First, earlier and intense instruction which stresses the importance of early intervention in the elementary schools needs to occur for these students. Secondly, closing the gap will require more comprehensive models which must include more time and perhaps smaller

groups. Last, they recommend that the interventions should vary according to the students' needs rather than providing a broad treatment.

An example of providing specific treatment designed for the student's needs can be found in Morris and Gaffney (2011). They worked with a single participant and focused on fluency as defined at WCPM. The student had continual problems with reading comprehension and fluency as verified by his school records since first grade. The intervention took place his eighth grade year in an after-school tutoring situation two days a week. The treatment was repeated readings at his instructional level with books that interested him. He started the year reading third grade material at a rate of 73 WCPM. After 47 hours of treatment he read 100 WCPM at the third grade level. At the fourth grade level he went from 74 WCPM to 97 WCPM.

Since the researcher had only one student, the treatment was tailored to his reading needs. The authors comment that the lack of improvement prior to this intervention was due to the fact that it was not focused on a specific problem, and the materials used in the intervention were at his reading level. They contend that focusing on a student's area of needs will provide the results that are desired. Also, for students who have experienced reading failure for multiple years, a brief experience with success could mean the difference between giving up and continuing with instruction and effort.

Homan et al. (2004) reported results from their study on the effects of repeated readings and non-repetitive reading on students' fluency and comprehension. The purpose of their study was to determine if repeated readings had a greater effect on older students' fluency and comprehension. The participants were sixth grade students who were reading below grade level. There were two treatments provided. One was assisted

non-repetitive reading (AS) where the teacher used echo reading, unison reading, and cloze reading with the students. During cloze reading, the teacher read the passage or story and left out every seventh word. The second condition was repeated readings (RR) in pairs with close teacher supervision. The RR group read less new material during the intervention because their passages were repeated four times in each session; whereas the AS group did not repeat any of their readings.

The pre- and posttest data included word accuracy, rate, and comprehension through retellings of the story. At the end of the 7 weeks of intervention, both the RR group and AS group showed gains in the three targeted areas. After analysis, there were no significant differences for any of the three variables among the interventions. That led the researchers to conclude that since both interventions had the students reading more, their improvement was because of the increased reading, not the treatment. They did mention that keeping the older students interested and motivated to read is a matter of concern.

Devault and Joseph (2004) worked with older students who were also identified as having disabilities. This study involved repeated readings with corrective feedback in the form of word boxes to determine if each participant's reading rate would increase and if the students would be receptive to an intervention technique that is used primarily with younger, elementary students. The word boxes provided the shape of the word to give the participants a visual cue. The participants were three high school students; one in the 10<sup>th</sup> grade with learning disabilities, one in the 11<sup>th</sup> grade with learning disabilities, speech and language disability, and a seizure disorder which was controlled with medication, and the last one, whose grade level was not stated, has an intellectual

disability. The students participated in the intervention individually for 15-20 minutes approximately 5 days per week. The article did not report how many sessions were in the intervention.

The results indicated that the intervention was successful at raising the students' reading rates. A comparison group was not included in the study to see if the intervention or the extra time devoted to reading was more responsible for the improvements. The other result mentioned was qualitative in nature. The students reported that they all were pleased with their improvements and were amazed with their progress. One participant began reading for pleasure, another read aloud to his younger brother at home, and yet another was disappointed that he was graduating because he wanted to continue the repeated readings.

In another study with 11 participants, Paige (2006) was trying to determine the effects of repeated readings using material above the participants' reading levels. The participants were 10 sixth-grade students and one eighth-grade student. Each week the teacher started with an assisted reading where the teacher read and the students followed along with a copy of the passage. The rest of the week, the students read the passage to the teacher who scored it for reading rate and accuracy. On Fridays the process was repeated one last time and the entire week's data were graphed. After reviewing his or her performance, each participant set a goal for the following week. The weekly process was repeated for 6 weeks with a new passage each week.

The results were analyzed using the pre- and posttest measures for rate and accuracy. The results showed that repeated readings were effective in increasing the participants' rate within the intervention, and for nine of the participants, the effects



transferred to the posttest. The students' results in decreasing the number of errors during the week varied. Some of the students developed patterns when the errors were corrected. For example, the lower level students had high error rates on Monday and Tuesday of each week, but consistently reduced the number of errors by 50% each week.

The researcher reported an unexpected result of the study. Paige (2006) reported that the participants' attitudes about their improvement and progress were surprising. When they set their goals, the goals were realistic and always above the prior weeks' performance. Some of the students celebrated when they attained their goals. The researcher was amazed that participants verbalized their interest and acceptance of the intervention. All the participants' showed an enthusiastic response and interest in their scores on Fridays.

The quantity of studies at the secondary level is few. Some studies use comparison groups, and others do not. Many have a small number of participants when compared to the studies at the elementary level. One significant difference between the studies completed at the secondary level is that the researchers at the secondary level add information about the participants' reaction and attitude during and after the study. Not one of the elementary studies reviewed made reference to the students' attitude.

## **Summary**

Fluency is an important component in reading (NICHD, 2000a) as it is strongly suggested that it is connected to comprehension (Daane et al., 2005; Kuhn & Stahl, 2003; Rasinski, 2000, 2004; Snow et al., 1998). When fluency problems are first exhibited in elementary school, intensive remediation needs to happen immediately. If the problem is permitted to exist, the chance for long-term fluency problems is great (Pressley, 2006).

However, when a student exhibits fluency difficulties in middle or high school, educators need to address the problem rather than ignoring it.

As the students move through the grade levels, the amount of reading and the difficulty of the reading increase dramatically. Most students' fluency levels increase with maturation (Rasinski, 2004), however some arrive in middle school and high school with below grade level reading and fluency. The need for improved reading speed is evident if the students are to progress through the curriculum. If more reading is required and a dysfluent reader takes twice as long to read than his or her proficient peers, then how long will it take before that dysfluent reader becomes frustrated and gives up? Morris and Gaffney (2011) considered dysfluency a disadvantage for students in the upper grades. Rasinski (2000) reports that since slow readers have to expend more energy and time to read the same amount of material, they may pretend to have read it or pretend to be lost. Another option for the dysfluent reader is to keep reading, thereby telegraphing to everyone else that he or she is slow and therefore open him or herself up for ridicule. Or the dysfluent reader could just quit reading and make no progress at all and possibly regress in his or her reading skills (Raskinski, 2000; Vaughn et al., 2009). The dysfluent reader does not read for fun and a reading assignment can turn into a marathon of frustration.

Fortunately, there are methods to assist the struggling middle or high school reader to improve his or her ORF. The repeated readings method has been repeatedly shown to be effective in improving the ORF of students at all grade levels. According to Pressley (2006), there is "...no magical moment when fluency is achieved..." (p. 47 in Samuels & Farstrup, 2006), so educators are encouraged to continue providing

instruction targeting fluency. At the beginning of the development of repeated readings, Samuels (1979) stated that any act that is fluent must have been practiced repeatedly in order to be fluent. He recommended that to become a fluent reader one must have accurate instruction, have time to practice the skill, and be motivated to stay with the task in order for it to move beyond accurate to automatic.

## **Method**

### **Setting**

This study took place in an urban alternative education middle/high school, Gold Coast Community School (GCCS). GCCS is categorized as an alternative school that specializes in academic intervention programs. The students who attended GSSC were identified and recommended by their home schools because they were not experiencing success on a comprehensive campus. The entrance criteria included: attendance problems, at least one retention, academically behind peers of their age, consistently low scores on reading and math sections of the Florida Comprehensive Achievement Test (FCAT), and poor or failing grades. To qualify for enrollment students had to exhibit at least one of the entrance criteria and have no history or current discipline problems.

GCCS is located near the downtown area of West Palm Beach and approximately 150 students ranging from grades 6-9 attended. The campus housed a teen parent program that allowed students with children to attend school while their children received childcare services. It was also home to one elementary alternative education classroom. This study, however, did not involve elementary students. The participants in the treatment group were students who attended GCCS.

### **Participants**

This study involved two groups of students who had been previously identified as having a learning disability (LD) through the state of Florida's eligibility criteria. The treatment group consisted of 12 students in Grades 6-9. All of the students were

receiving some services through the Exceptional Student Education (ESE) program at Gold Coast Community School and read at least 1.5 grades below their grade level.

The treatment group was chosen for the study because they were assigned to the researcher's reading class. They were selected for the reading class by the assistant principal based on the 2010 Spring FCAT reading results in conjunction with the ESE services and goals as dictated by the Individual Educational Plan (IEP). The assistant principal was unaware of the impending study and therefore, did not base his selection of students on the predicted results of the study.

The students in the comparison group (N=12) were in Grades 6-9 and also attended school at GCCS. These students had also been previously identified as having a learning disability that gave them access to ESE services within the school. The profiles of the participants in the treatment groups and comparison groups in this study were similar (see Table 3.1 and Table 3.2). Table 3.3 displays the demographics of the comparison group. These participants were not in the researcher's assigned reading class.

In this study, the participants were not randomly assigned to either the treatment group or comparison group, thereby making this study a quasi-experimental design with a pre- and posttest measure given at the beginning and at the end of the intervention phase.

Table 3.1

*Demographics of the Treatment Group*

<i><b>Participant</b></i>	<i><b>Age</b></i>	<i><b>Grade Level</b></i>	<i><b>FCAT DSS in Reading</b></i>	<i><b>Number of Retentions</b></i>
<b>101</b>	13	6	1261	3
<b>104</b>	15	7	1404	1
<b>105</b>	15	8	1567	1
<b>106</b>	16	8	1137	2
<b>107</b>	16	8	1656	2
<b>108</b>	16	8	1446	2
<b>109</b>	15	8	1038	2
<b>111</b>	17	9	1710	2
<b>112</b>	16	9	1162	2
<b>113</b>	17	9	1486	2
<b>114</b>	17	9	1448	3
<b>115</b>	17	9	1467	2

Note. DSS – developmental scale scores from FCAT results 2010

Table 3.2

*Demographics of the Comparison Group*

<i><b>Participant</b></i>	<i><b>Age</b></i>	<i><b>Grade Level</b></i>	<i><b>FCAT DSS in Reading</b></i>	<i><b>Number of Retentions</b></i>
<b>201</b>	13	6	1379	2
<b>202</b>	14	6	1578	4
<b>204</b>	15	7	1554	2
<b>205</b>	15	8	1446	2
<b>206</b>	15	8	1646	1
<b>207</b>	16	8	1598	2
<b>208</b>	15	8	1540	3
<b>209</b>	16	8	1593	2
<b>211</b>	16	9	1581	2
<b>212</b>	16	9	1891	1
<b>213</b>	16	9	1657	2
<b>215</b>	15	8	1410	2

Note. DSS – developmental scale scores from FCAT results 2010

Table 3.3

*Averages of Demographics for the Treatment and Comparison Groups*

	<i>Age</i>	<i>Grade Level</i>	<i>FCAT DSS in Reading</i>	<i>Number of Retentions</i>
<b>Participants</b>	15.8	8.1	1398.5	2
<b>Comparison</b>	15.1	7.8	1572.5	2

Note. DSS – developmental scale scores from 2010

**Variables**

This study had three dependent variables. The first variable, *reading rate*, is the number of words read correctly per minute. *Reading accuracy* data were gathered at the same time as rate and represent the percentage of words read correctly in the passage. The third dependent variable is the students' *reading comprehension* scores.

The independent variable was the instructional practice of repeated reading with initial teacher feedback and goal setting immediately followed by independent student practice. Repeated reading was used with the treatment group, but not with the comparison group.

**Instrumentation**

The KTEA II (Kaufman & Kaufman, 2004) was developed to measure academic achievement for subjects ages 4½ through 25. It is individually administered and yields scores in various formats: standard scores, grade level scores, age equivalent scores, percentiles, stanines, and age equivalents. The test assesses written and oral expression, math, and reading.

It is noted that examiners with backgrounds in psychology or education who have completed graduate training in measurement may administer the KTEA II. There are a total of 14 subtests of the KTEA II Comprehensive Form and eight are grouped into four

domain composites: Reading, Mathematics, Written Language, and Oral Language. The remaining six Comprehensive Form subtests measure skills related to reading and make up four additional composites. Reading comprehension is considered a subtest of the reading composite and was the major focus in relation to the research questions. The KTEA II was standardized from September 2001 through May 2003. The age-norm sample consisted of 3000 subjects aged 4 ½ through 25 and grade-norm sample of 2400 students in grade K-12. These subjects were tested at 133 sites in 39 states. In terms of reliability, each subtest and composites were tested for internal consistency and reliability. Reading Comprehension produced reliability scores of 0.90 for Form A and 0.91 for Form B. The internal consistency reliability between Forms A and B ranged between 0.89 and 0.91 for Grades 6, 7, and 8. The reliability scale is from 0-1 and reliability scores closer to one are preferred.

The instructional reading level determined what level passages they read during the intervention phase. To obtain this level, the researcher individually administered an Informal Reading Inventory (IRI) to the treatment group. In this instance, a portion of the Diagnostic Assessment of Reading (DAR) was given individually because it is an accepted and approved assessment in Palm Beach County School District for students at the secondary level. The overall assessment consists of nine subtests, one of which is silent reading comprehension. The goal of this test is to provide an instructional level of reading where the student demonstrates comprehension. The individual scores were used to determine the instructional reading level for the participants in the treatment group. The students in the comparison group were not administered the DAR since its sole purpose was to determine the level of passages for the repeated readings.



## **Procedure**

**Pretest for comprehension.** The students in both the treatment and comparison groups were individually administered the reading comprehension subtest of the KTEA II Comprehensive Form A by the researcher at the beginning of the study. No other students were in the room so they would not have the opportunity to overhear the assessment items. Scores from the KTEA II can be reported in several formats. For this research project, the comprehension scores were reported in standard scores according to age rather than grade level since all participants were retained multiple times and were older than their peers in the same grade. These data were presented in standard scores and were reserved for comparison to post-intervention data. The second and third component of the baseline data were the reading rate and accuracy of a grade level passage.

**Pretest for oral reading fluency.** The participants in both groups were also assessed on their oral reading skills rate and accuracy using the Curriculum Based Measure (CBM). The students read an unfamiliar, *grade level* passage from the Florida Oral Reading Fluency (FORF) probes (see example in Appendix B for scorer's page and Appendix C for student's copy) to the researcher for 60 seconds. The FORF probes are published by Florida Department of Education and were a required assessment three times a year in Palm Beach County. The errors, which included omissions, mispronunciations, substitutions, and insertions, were recorded during the reading. Self-corrections and mispronunciations of proper nouns were not counted as errors. If the participant paused on a word for 3 seconds, the researcher said the word, it was scored as

an error, and then the student continued reading. The researcher marked the passage where the participant stopped reading at the end of 60 seconds.

The oral reading rate was determined by the number of words read minus the number of errors. This difference was recorded as words correct per minute (WCPM). Oral reading accuracy scores were derived from the same reading and were determined by dividing the number of words read correctly by the number of words attempted, then multiplied by 100 to yield a percentage of words read correctly (Samuels, 1979). Reading accuracy was scored and recorded at the same time to provide a baseline percentage of words read correctly.

**Determining instructional reading level for placement.** As discussed in the instrumentation section, the DAR was used only for the treatment group and specifically for obtaining an instructional reading level. This level was used as the starting point for the intervention. For example, if a student demonstrated silent reading mastery at the third grade level, then he or she started at the third grade level during the intervention stage. Since the comparison group was not receiving repeated reading instruction, there was no need for a starting point at the instructional level.

**Goal setting.** The national norms published by Hasbrouck and Tindall (2006) were used to compare each student's reading rate (Appendix A). Hasbrouck and Tindall (2006) recommended that scores 10 words above or below the 50<sup>th</sup> percentile be regarded as falling within the "normal, expected, and appropriate range for a student at that grade level at that time of year, at least for students in grades 2-8" (p. 540). This recommendation was accepted and used for this study and was also applied to the ninth

grade students as well since there are no accepted norms that include high school students.

The goal for each student was to work towards consistently scoring 10 words below or above the 50<sup>th</sup> percentile at his or her actual grade level. As a point of clarification, it must be noted that the percentile scores were derived from reading an unpracticed *grade level* passage, not an *instructional level* passage, to determine the ranking within the actual grade level. The passages read during the pre- and posttest were grade level passages, but not during the intervention. This was done to determine if any increase in the students ORF and accuracy at the instructional level would transfer to the actual grade-level passages.

**Intervention.** After the pretest data were gathered, the students in the comparison group continued with the reading instruction in their class that used the rotational instructional model (RIM). During instruction using RIM, the students participate in whole group lessons, independent reading, small group lessons, and a computer software program that reinforces reading skills. There was no instruction in reading fluency and the researcher had no more instructional contact with these participants until the end of the intervention phase.

The participants in the treatment group began working on repeated readings with the researcher. Each repeated readings session was an isolated instructional segment lasting 20 minutes per day out of the 140 minutes of instruction that the participants were in the researcher's class. During the remaining 120 minutes the students participated in RIM; which consisted of whole group instruction, small group instruction, independent reading, and a computer software program that reinforced general reading skills. There

was no instruction using repeated reading or any other method that targeted fluency prior to the study and none of the passages were used in other instructional components of the class. The researcher assured that no two students were reading the same passage on the same day. Also, when the researcher was working with the students, they were isolated in a section of the room and no students were near them.

At the beginning of the study, the participants were informed of the routine and what they could expect during the repeated readings sessions. The routine was reviewed with them and an anchor poster was created to refer to as needed. This assisted in providing structure and routine to the repeated readings sessions. The routine did not change from session to session and it was as follows:

1. Review the goal line
2. Student reads
3. After 60 seconds, researcher and student review words missed
4. Student practices reading the passage three times independently
5. Reread the passage to the researcher.

The passages came from the intermediate edition (readability levels 1-6) and the secondary edition (readability levels 4-9) of *The Six Minute Solution: A Reading Fluency Program* (Adams & Brown, 2007a & 2007b). These were purchased by the administration at GCCS to use as fluency practice for the entire school population. For each session the participants read unpracticed reading passages at their instructional level (Kuhn & Stahl, 2003). For example, if a participant scored at the second grade level on the DAR, then he or she read passages from the second grade level for the intervention regardless of his or her actual grade level. (See Appendix D for a sample passage).

Each student was called to the small group area of the room to read the passage for 60 seconds. The errors were recorded on the researcher's copy of the text and include omissions, mispronunciations, substitutions, and insertions. The mispronunciation of proper nouns and self-corrections were *not* counted as errors. After recording the errors, the rate was determined. Rate was determined using the same process as described above. Each omission, mispronunciation, substitution and insertion counted as one error. Multiple errors of the same word are recorded as only one error. The scores were recorded on the student's repeated reading data log (Appendix E). Together the researcher and student plotted the rate on a graph (Appendix F). The errors made during reading were reviewed once and the participant was asked to repeat the words after the researcher. A goal setting element was added to the repeating method by placing an aim line on the graph so the student knew the target for his or her reading rate (Hasbrouck, Woldbeck, Ihnot, & Parker, 1999). An example of a completed graph including the aim line can be found in Appendix G.

The aim line was determined by locating the 50<sup>th</sup> percentile for the passage grade level on Hasbrouck and Tindal's (2006) national norm table for ORF. If the participant achieved that goal on three consecutive first readings, then the next goal was the 50<sup>th</sup> percentile of the next grade level. For example, if a participant is in 7<sup>th</sup> grade and scored in the 10<sup>th</sup> percentile of Grade 4, then the goal will be to increase the ORF to the 50<sup>th</sup> percentile of the 4<sup>th</sup> grade which is 94 CWPM. The subsequent goal will be the 50<sup>th</sup> percentile of the 5<sup>th</sup> grade (110 CWPM) and so on until the end of the study.

The participants were instructed to take their passages and move to an unoccupied work table or desk in the front of the room to practice reading the passage independently

three more times. Reading a passage more than 3 times does not change the outcome regarding fluency and comprehension (Meyer & Felton, 1999; Sindelar et al., 1990; Therrien, 2004). Based on those studies, the repeated reading intervention in this study required the students to read the passage three times. Once the subject indicated that the reading was completed, he or she returned to the researcher and read the passage one more time for 60 seconds. The new rate was plotted on the graph in a different color and the results were briefly discussed.

**Advancement to higher level passages.** The participant was considered for movement to the next readability level when he or she met the criterion for progression. The criterion for progression was achieved when the participant read at the 50<sup>th</sup> percentile or higher three times in a row on the initial reading of three different passages. The participant would move on to a new passage at the next grade level where the process for progressing on to the next level began again. This routine was continued until each participant completed twenty sessions of repeated reading with corrective feedback and goal setting.

**Posttest.** At the conclusion of 20 sessions, the participants were individually administered the posttests: K-TEA II Comprehensive Form (Form B) and a fluency probe for reading rate and accuracy of an unpracticed *grade level* passage. The scores were recorded the same way as the pretest. At this point, the researcher met individually with the participants in the comparison group and administered the posttest in the same fashion.

## **Analysis**

The treatment and comparison groups participated in assessments that yielded pre- and posttest scores. The data from the pretest was used as the covariate in an analysis of covariance (ANCOVA). A series of ANCOVA tests were conducted on the three dependent variables: (a) reading rate (b) reading accuracy and (c) reading comprehension. A test for homogeneity of regression slopes was executed to determine if there is interaction between the covariate and independent variables.

Prior to the onset of the study, consideration was given to the number of participants. The G-Power program was used to determine if the number of participants would yield an effect size that could be generalized to populations outside of the study. Using an a priori analysis, the study would need to have 42 participants to have an effect size of 0.80, power of 0.80, at an alpha level of .05. To decrease the number of participants closer to the sample size in this study, the alpha level would remain the same at 0.05 and the effect size would remain at 0.80, but the power would be reduced to 0.70.

## Results

This study examined the effect of repeated reading with immediate feedback and goal setting followed by independent practice on the reading rate, accuracy, and comprehension of secondary students with learning disabilities. An analysis of the data was conducted to test the three null hypotheses:

- 1.) There is no significant difference in the *reading rate* of 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup> grade students with learning disabilities who received explicit instruction using repeated readings with initial teacher feedback and goal setting immediately followed by independent student practice when compared to a similar group of 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup> grade students with learning disabilities who did not receive repeated reading instruction.
- 2.) There is no significant difference in the *reading accuracy* of 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup> grade students with learning disabilities who received explicit instruction using repeated readings with initial teacher feedback and goal setting immediately followed by independent student practice when compared to a similar group of 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup> grade students with learning disabilities who did not receive repeated reading instruction.
- 3.) There is no significant difference in *reading comprehension* of 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup> grade students with learning disabilities who received explicit instruction using repeated readings with initial teacher feedback and goal setting immediately followed by independent student practice when compared



to a similar group of 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup> grade students with learning disabilities who did not receive repeated reading instruction.

In order to use the pretest scores as a covariate, the data were analyzed to determine if the assumption of the homogeneity of regression of slopes was violated for each dependent variable. It was not and therefore resulted in a failure to reject the null hypothesis.

To test each null hypothesis, an independent analysis of covariance (ANCOVA) was conducted on each of the dependent variables: (a) reading rate, (b) reading accuracy, and (c) reading comprehension. Table 4.1 contains the adjusted means (M), standard deviations (SD), and Ns (number of participants) of the treatment group (TM) and the comparison group (CM) of the pretest scores. Table 4.2 contains the descriptive data for the posttest scores.

Table 4.1

*Descriptive Statistics of Pretest Scores for Reading Rate, Accuracy, and Comprehension*

Dependent Variables	<i>M</i>		<i>SD</i>	
	Treatment	Comparison	Treatment	Comparison
Rate	83.17	89.83	31.63	35.40
Accuracy	92.83	93.25	2.17	3.02
Comprehension	67.08	72.33	13.60	6.67

Note. There were 12 participants in each group and all had pretest scores

Table 4.2

*Descriptive Statistics of Posttest Scores for Reading Rate, Accuracy, and Comprehension*

Dependent Variables	M		SD	
	Treatment	Comparison	Treatment	Comparison
Rate	98.67	93.08	29.84	34.13
Accuracy	97.00	96.25	1.91	2.80
Comprehension	73.58	74.92	11.75	9.82

Note. There were 12 participants in each group and all had posttest scores

**Analysis of Hypothesis One**

Table 4.3 displays the ANCOVA results for the first dependent variable, reading rate.

Table 4.3

*Analysis of Covariance for Reading Rate*

<i>Source</i>	<i>df</i>	<i>MS</i>	<i>F</i>	$\eta^2$	<i>P</i>
Corrected Model	2	10252.378	93.900	.899	.000
Intercept	1	898.508	8.229	.282	.009
Pretest for rate	1	20317.714	186.086	.899	.009
Intervention	1	801.331	7.339	.259	.013
Error	21	109.184			
Total	24				
Corrected Total	23				

Note. Intervention represents the repeated reading with immediate feedback and goal setting

The data indicate that the difference in the adjusted means is significant ( $p = 0.013$ ;  $\alpha = 0.05$ ). The *Partial Eta Square* of .26 indicates that 26% of the variance in the adjusted means can be attributed to the intervention and this is a moderate effect size. This supports that the repeated reading intervention has a positive effect on the oral reading rate of secondary students with learning disabilities when they engage in reading grade level, unpracticed passages. Therefore, the researcher rejected the null hypothesis that there is no significant difference in the reading rate of 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup> grade students with learning disabilities who received explicit instruction using repeated readings with initial teacher feedback and goal setting immediately followed by independent student practice when compared to a similar group of 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup> grade students with learning disabilities who did not receive repeated reading instruction.

### **Analysis of Hypothesis Two**

The data for the ANCOVA of the second dependent variable, reading accuracy, shows slightly different results than for reading rate and is presented in Table 4.4.

Table 4.4

*Analysis of Covariance for Reading Accuracy*

<i>Source</i>	<i>df</i>	<i>MS</i>	<i>F</i>	$\eta^2$	<i>P</i>
Corrected Model	2	11.020	2.151	.170	.141
Intercept	1	71.855	14.026	.400	.001
Pretest for accuracy	1	18.665	3.643	.148	.070
Intervention	1	4.785	.934	.043	.345
Error	21	5.123			
Total	24				
Corrected Total	23				

*Note.* Intervention represents the repeated reading with immediate feedback and goal setting

It can be determined from these data that the intervention had little effect on the reading accuracy of the students who participated in the treatment when compared to the students who did not receive the treatment. The  $p$  value is 0.345 and is greater than the alpha value ( $\alpha = 0.05$ ). Therefore the researcher fails to reject the null hypothesis that there is no significant difference in the reading accuracy of 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup> grade students with learning disabilities who received explicit instruction using repeated readings with initial teacher feedback and goal setting immediately followed by independent student practice when compared to a similar group of 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup> grade students with learning disabilities who did not receive repeated reading instruction.

### Analysis of Hypothesis Three

Table 4.5 displays the ANCOVA results of the reading comprehension of students who received the repeated readings intervention compared to the students who did not receive the intervention.

Table 4.5

#### *Analysis of Covariance for Reading Comprehension*

<i>Source</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i><math>\eta^2</math></i>	<i>P</i>
Corrected Model	2	602.268	9.126	.465	.001
Intercept	1	351.712	5.329	.202	.031
Pretest for comprehension	1	1193.869	18.089	.463	.000
Intervention	1	29.213	.443	.021	.513
Error	21	65.998			
Total	24				
Corrected Total	23				

*Note.* Intervention represents the repeated reading with immediate feedback and goal setting

These results indicate that the repeated reading intervention as presented in this study does not have a significant impact on the reading comprehension of secondary students with learning disabilities. The *p* value of .513 is greater than the alpha level that was set at .05 ( $\alpha=0.05$ ), thereby indicating there is no statistical significance in the difference of the adjusted means. The researcher fails to reject the null hypothesis that there is no significant difference in reading comprehension of 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup> grade students with learning disabilities who received explicit instruction using repeated

readings with initial teacher feedback and goal setting immediately followed by independent student practice when compared to a similar group of 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup> grade students with learning disabilities who did not receive repeated reading instruction.

## **Discussion**

The main purpose of this research was to determine if a commonly practiced oral reading fluency intervention has significant effects on the participants' reading rate, accuracy, and comprehension. When rate, accuracy, and prosody are discussed as a group, it is typically referred to as reading fluency (Allington, 2006; Armbruster et al., 2001; NICHD, 2000b). When a reader reads aloud, it is then called oral reading fluency (ORF). Repeated reading was used as the intervention with secondary students who had previously been identified as having mild learning disabilities and were also at least one and a half years behind their grade level peers in reading. A comparison group of similar skills, abilities, and age were included in the study.

Repeated reading has been widely used since LaBerge and Samuels (1974) published their paper that discussed automaticity when reading. They asserted that when students learn a new skill, such as reading, they learn until mastery. The student needs to continue practicing that skill until it surpasses the mastered stage and enters the automatic stage. When reading becomes automatic, then there is fluency. However, some students have a difficult time becoming fluent readers and, without appropriate, explicit instruction, may never reach fluency.

The majority of the studies that have been completed using repeated readings as an instructional method to address dysfluency have occurred at the elementary school level (NICHD, 2000b). There are studies completed at the secondary level, but the

number of subjects is limited and, as is the case with research completed by Morris and Gaffney (2011), there was a single subject. At the secondary level, classroom instruction is more focused on content rather than reading processes and skills. Therefore, the struggling reader most likely will not have the same opportunity for learning as the fluent, skilled reader. A report by the American Federation of Teachers (2004) stated that if students who are struggling with fluency in the first grade do not receive explicit and direct instruction for lagging skills, they will have a 90% chance of continuing to have fluency problems well into high school.

All of those factors combined resulted in this researcher designing and implementing this study. The goal was to determine if an adapted version of repeated reading was effective in increasing reading rate, accuracy, and comprehension of secondary students with mild learning disabilities. The repeated reading method is different in this study because there was a component added that includes immediate feedback on the students' errors, setting a goal, and individual practice immediately following the first reading with the researcher. Other studies used repeated readings in different forms that did not include feedback or immediate practice of missed words but did include applying visual cues to missed words and practicing with a partner.

### **Rate**

Reading rate was defined as the number of words the students read correctly per minute. This curriculum based measurement (CBM) was used as a reliable method to collect data to monitor students' performance and progress. The treatment groups' and comparison groups' scores were analyzed to determine if the inclusion of repeated readings was more effective in increasing students' reading rate than the school's reading



program that includes a computer program to practice reading skills, small group instruction, and independent reading.

Repeated readings did produce higher reading rates for the treatment group. The students in the treatment group gained an average of 15.5 WCPM after 20 sessions, whereas, the students in the comparison group gained an average of 3.25 WCPM in the same amount of time. Even though the participants read passages that were at their instructional level, the increase they exhibited on those passages transferred to unfamiliar passages at their grade level. For example, an eighth grade student who was reading passages at the fourth grade level during the intervention, showed an increase over time in rate. At the end of the study, that increase transferred to unfamiliar passages that were at the eighth grade level. So not only did their speed of reading improve at the instructional level, it also improved at their grade level.

### **Accuracy**

The percentage of words read correctly at the grade level passages increased for each group. However, neither group showed a significant increase over the other. The treatment group had an accuracy of 92.83% on the pretest. The posttest accuracy scores show an increase to 97%. The comparison group started with an accuracy rate of 93.25% and improved to a 96%. This study showed that the students in both the comparison and treatment group started out reading below the 50<sup>th</sup> percentile for their assigned grade level, but had accuracy scores above 90%. Because the students started reading at such high accuracy rates, the margin for improvement was smaller than if they had read with less accuracy. Therefore, the small improvement was expected.

## **Comprehension**

The third hypothesis tested reading comprehension. Unlike other studies reviewed, an individually administered, standardized reading comprehension test was used to measure comprehension in this study. Other studies used retelling of a passage, group administered comprehension tests, and question/answer techniques to measure comprehension.

The individual scores came from using the test manual to translate raw scores into standard scores when compared to other students their age. Because of the high retention rate of the participants, if their grade levels were used as the basis for the translation, the scores would have been lower. The average standard score for comprehension is 100. The treatment group had an average score of 67.08 on the pretest. The posttest average score was 73.58. This was an increase of 6.5 points. The comparison group had a difference of 2.59. The analysis showed that even though there were higher gains by the treatment group, the gain was not significant. Therefore, the researcher was unable to reject the null hypothesis.

It is disappointing for the gain in comprehension to be so small, however, there could be several explanations for this. First, the short duration of the intervention (less than two months) may be a factor in the increase of rate not transferring to comprehension. Also, the Palm Beach County School District has a testing window where no other activities or research can take place due to the intensive focus on preparing for the high stakes testing. Due to this window, it put the posttest very close to the end of the school year. The mindset and attitude of the secondary students at this time may have played a part in their focus and performance on the posttests.

## **Limitations**

**Number of participants.** One limitation of this study was the small sample size. The school in which it was conducted was an alternative school for students who are behind their peers in grade placement and in skills. The majority of the students have been retained multiple times and it is not uncommon for an eighth grade student to be 16 years old. The year the study was completed, there was a maximum of 150 students enrolled in the school. Approximately 27% of the entire school population had been previously identified as having a mild disability. Of that sub-group, 30 students were identified to participate in the study. One of the students in the intervention group chose not to give assent and another's parent chose not to consent to participate. In the comparison group, because the student was involved in emergency removal from the home, it was not possible to obtain consent and one other student withdrew from the school. The remaining 24 students willingly participated and their parents/guardians did not hesitate to give consent.

**Design flaw.** When designing the study, the researcher did not allow for adjustments in placement within the intervention group. According to the students' scores on the Informal Reading Inventory, they were placed in a grade level for the repeated readings that matched their instructional reading level. If a student was not meeting with success at the instructional reading level, there was no allowable procedure to move the student to a lower grade level where he or she could achieve success and work up. The only allowable movement within the intervention was to increase to a more difficult level. This could have had an impact on the student's attitude and willingness to participate.

Even though reading accuracy was included as a piece of the data that was collected, it was not part of the intervention with the students. Only the rate at which they read was discussed and plotted on the graph (see Appendix G). The percentage of words read correctly was calculated and kept on the record, but it was not used in the feedback given or used to set any goals, whereas, the rate was graphed and discussed as a goal.

**Independent practice.** Even though the researcher had the participants in view at all times, it was not verified by any other means that they were actually practicing the passages. It is possible that the students made it appear as though they were reading and actually were not. If they said they practiced, but in all actuality, did not practice, that could have an effect on the outcomes.

### **Observations of Participants and by Participants**

Several researchers have suggested that repeatedly reading the same passage may become boring to the students and then affect the level of participation in the intervention (e.g., Devault & Joseph, 2004). Particularly with older students who feel the pressure of classmates and stigma of working on how fast they read, it was felt that their willingness to participate may be somewhat less than younger students (Morris & Gaffney, 2011; Paige, 2006). In this particular study, none of the students complained about reading the same passage five times in a span of 20 minutes, nor did they complain that it was work created for young children. They did, however, show quite an interest in the process and the reason for doing repeated readings. One participant specifically wanted to know why it was important to read faster. When it was explained that if a student read at half the rate of the rest of the class, then the one hour worth of reading that was assigned as

homework would take two hours to complete, this participant closely followed the scores and wanted more feedback so it was possible to gauge progress towards grade level. On three other occasions, participants brought their friends in to the classroom at lunch time and asked if they could do “that reading thing that makes you read faster.” They wanted their friends to experience the success they felt.

Another participant made the statement that she had never read so fast in her life and now she enjoyed reading and was reading at home. Another participant asked to read more with the researcher because she wanted to read at her right grade level and she realized that with the structured, intensive, focused reading intervention, she was making gains and wanted to continue so she would have more success in general education classes at the high school level. One other student started to time herself when she was practicing the passage to adjust her speed.

According to the experience that this researcher had with the participants, there was no stigmatizing of the students because they were participating in the intervention. The students accepted that oral reading fluency was necessary to become a proficient reader and saw that it was possible with instruction.

### **Educational Implications**

It has been well established that repeated readings with struggling readers at young ages is an effective means of increasing the reading rate, accuracy, and prosody (Herman, 1985; O’Shea & Sindelar, 1984; Stahl et al., 1997). However, very few of those studies included a standardized measure of reading comprehension and very few of them included participants in the 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup> grades. This study further validated the use of repeated readings with older, struggling readers to increase the average number

of words they read correctly within one minute. However, it failed to confirm that repeated readings had a positive and statistically significant effect on reading accuracy and reading comprehension. For accuracy, the researcher was not able to determine if the slight increase was due to the intervention. The results for reading comprehension also indicated that the determination could not be made.

What the results show the reading teachers of struggling secondary students is that it is possible and feasible to use repeated readings with secondary students. If presented routinely and explicitly, students can make improvements towards fluent reading over time and may in fact become readers who enjoy reading for fun. However, it cannot be said that repeated reading has a positive effect on the reading comprehension of secondary students with learning disabilities. This research adds to the literature on struggling readers and repeated readings and could have some impact on future studies.

### **Suggestions for Future Research**

Teachers' time is extremely valuable and it seems that every minute of the school day is accounted for with an instructional activity. Since the demand on time is ever present, it is important that the activities teachers use to address reading and oral fluency are established and productive. The research needs to continue with older, struggling readers to determine more efficient methods of increasing reading fluency and comprehension at the same time. Teachers need the knowledge so they can confidently use methods that will result in the highest possible achievement within the limited time a teacher has with the students.

It is suggested that, because of the short duration of this study and lack of

significant impact on comprehension, more studies be completed with varying lengths to determine what amount of time dedicated to fluency intervention will have the greatest impact on comprehension and reading rate and accuracy.

### **Summary**

This study was implemented to determine the effects of repeated readings on reading rate, accuracy, and comprehension. The participants were secondary students who have significant reading problems and had been previously declared eligible for special education. The students attended an alternative school for students who had been retained multiple times, had gaps in their learning, and/or were not successful on a regular school campus. Since few studies have been completed to measure the effect of repeated readings on students with disabilities at the secondary level, this study adds to the limited knowledge base. From the results we can confirm that repeated readings have a positive effect on the reading rate for this group of students.

However, more research needs to take place to determine if the length of time in an intervention is more important than the adaptations to repeated readings. Because the end goal of any reading instruction is to facilitate understanding and comprehension, the continued research needs to result in instructional practices that teachers can use with older, struggling readers.

## Appendices



Appendix A

National Fluency Norms

# Appendix A

## National Fluency Norms

Grade	Percentile	Fall WCPM	Winter WCPM	Spring WCPM
1	90		81	111
	75		47	82
	50		23	53
	25		12	28
	10		6	15
	SD		32	39
2	90	106	125	142
	75	79	100	117
	50	51	72	89
	25	25	42	61
	10	11	18	31
	SD	37	41	42
3	90	128	146	162
	75	99	120	137
	50	71	92	107
	25	44	62	78
	10	21	36	48
	SD	40	43	44
4	90	145	166	180
	75	119	139	152
	50	94	112	123
	25	68	61	98
	10	45	41	72
	SD	40		43
5	90	166	182	194
	75	139	156	168
	50	110	127	139
	25	85	99	109
	10	64	74	83
	SD	45	44	45
6	90	117	195	204
	75	153	167	177
	50	127	140	150
	25	98	111	122
	10	68	82	93
	SD	42	45	44
7	90	180	192	202
	75	15	165	177
	50	128	136	150
	25	102	109	123
	10	79	88	98
	SD	40	43	41
8	90	185	199	199
	75	161	173	177
	50	133	146	151
	25	106	115	124
	10	77	84	97
	SD	43	45	41
WCPM: Words Correct Per Minute				
SD: Standard Deviation				

Hasbrouck and Tindal, 2006

## Appendix B

### Florida Oral Reading Fluency Assessment: Scorer's Sheet

## Appendix B

### Florida Oral Reading Fluency Assessment: Scorer's Sheet

<p style="font-size: 1.2em; color: #4F81BD;">Place Student Label Here</p>	<p style="font-weight: bold; margin: 0;">Examiner Scoring Sheet</p> <p style="font-weight: bold; margin: 0;">Assessment 2: 2010-2011</p>	<div style="font-size: 4.5em; font-weight: bold; line-height: 1;">8</div>
<p style="margin: 0;">Score: _____</p> <p style="margin: 0;">Oral Reading Fluency: _____</p>	<p style="margin: 0;">Passage 1: _____</p> <p style="margin: 0;">Passage 2: _____</p> <p style="margin: 0;">Average Score: _____</p>	

#### Oral Reading Fluency

*When I say "Begin," start reading aloud at the top of the page (point). Read across the page (point). Try to read each word. If you come to a word you don't know, I'll tell it to you. Be sure to do your best reading. Ready, begin.*

<b>Home is in Your Head</b>	
If you had the opportunity, would you pack your bags and leave for a foreign country at a moment's notice?	18
	20
As the son of military personnel, I qualified as a "military kid," or child of an active-duty military employee. My family moved across the globe every two or three years, which meant that we had to adapt to different climates, new groups of friends, and foreign cultures. When you're a military kid, home is where the navy sends you, and for every touchdown, a lift-off awaits around the corner.	36
	51
	67
	83
	91
<b>European Vacation</b>	93
My family moved to Gaeta, Italy, in 1983, when I was six years old, just one month before I began first grade. Gaeta is located between Rome and Naples in the southern region of Italy.	111
	128
I attended Joshua Barney Elementary, which was a Department of Defense school for the children of military employees. My friends consisted of Italian neighbors who spoke little or no English and my American classmates who spoke little or no Italian. Still, we had a lot of fun together. We attended field trips to Rome and Pisa, where we could inspect Michelangelo's Sistine Chapel ceiling up close, or scale the Leaning Tower's floors, all in the name of education.	142
	156
	174
	189
	205
	206
Although my school was basically the same as any American elementary school, I had different after-school activities than my friends in America. We liked to hang out in the ruins of a 200-year old abbey. Bombs had nearly destroyed the abbey during World War II. My friends and I uncovered frescoes and wall paintings that had lain buried beneath the rubble for dozens of years. I felt like I was digging into history even when I was wasting time with my friends!	220
	236
	254
	270
	289
	290
<b>Next Stop: Florida!</b>	293
After four years in Italy, my father was assigned to a base in Jacksonville, Florida. Returning to America (or the States, as we called it) sent me into culture shock. In America, I could understand every conversation I heard in the supermarket, every store accepted American dollars, and all television was in English! Also, many of my new friends in Florida were military kids themselves, so we already had a lot in common. They were familiar with living a life "on the move" and many of them had recently moved to Florida, just like me.	308
	326
	339
	355
	372
	388

Words Attempted \_\_\_\_\_  
Errors \_\_\_\_\_  
Words Read Correctly \_\_\_\_\_

<p><b>Prorating Scores</b> (for students who complete an entire passage in less than one minute)</p> <p>The passage score is obtained by using the following formula:</p> <p>60 x _____ (total words correct) divided by _____ (seconds) = _____ Words Read Correctly</p>
---



© Copyright 2007 Florida Department of Education. All rights reserved.



## Appendix C

### Florida Oral Reading Fluency Assessment: Student's Copy

## Appendix C

### Florida Oral Reading Fluency Assessment: Student's Copy

#### Home is in Your Head

If you had the opportunity, would you pack your bags and leave for a foreign country at a moment's notice?

As the son of military personnel, I qualified as a "military kid," or child of an active-duty military employee. My family moved across the globe every two or three years, which meant that we had to adapt to different climates, new groups of friends, and foreign cultures. When you're a military kid, home is where the navy sends you, and for every touchdown, a lift-off awaits around the corner.

#### European Vacation

My family moved to Gaeta, Italy, in 1983, when I was six years old, just one month before I began first grade. Gaeta is located between Rome and Naples in the southern region of Italy.

I attended Joshua Barney Elementary, which was a Department of Defense school for the children of military employees. My friends consisted of Italian neighbors who spoke little or no English and my American classmates who spoke little or no Italian. Still, we had a lot of fun together. We attended field trips to Rome and Pisa, where we could inspect Michelangelo's Sistine Chapel ceiling up close, or scale the Leaning Tower's floors, all in the name of education.

Although my school was basically the same as any American elementary school, I had different after-school activities than my friends in America. We liked to hang out in the ruins of a 200-year old abbey. Bombs had nearly destroyed the abbey during World War II. My friends and I uncovered frescoes and wall paintings that had lain buried beneath the rubble for dozens of years. I felt like I was digging into history even when I was wasting time with my friends!

#### Next Stop: Florida!

After four years in Italy, my father was assigned to a base in Jacksonville, Florida. Returning to America (or the States, as we called it) sent me into culture shock. In America, I could understand every conversation I heard in the supermarket, every store accepted American dollars, and all television was in English! Also, many of my new friends in Florida were military kids themselves, so we already had a lot in common. They were familiar with living a life "on the move" and many of them had recently moved to Florida, just like me.

## Appendix D

Sample Passage from Adams & Brown (2007)

## Appendix D

### Sample Passage from Adams & Brown (2007)

PRACTICE PASSAGE 325

#### Scott Joplin: Father of Ragtime Music

0 Scott was born in Texas in 1868. He came from a musical family.  
13 His parents played music as a hobby. Scott's mother played the banjo. His  
26 father played the fiddle. Not many black men made a living playing music  
39 in those days. Scott's parents hoped things would be different for Scott.

51 Scott's mother cleaned houses for a living. She took Scott to work  
63 with her. Scott played the piano in the houses where she worked. He  
76 liked to play songs by Stephen Foster. Scott's mother worked hard to pay  
89 for his piano lessons. In those days, there were not many schools for  
102 black children. Scott did not go to school until he was a teenager. But he  
117 worked very hard. Scott played the piano every day. When Scott was 17,  
130 he left home to get a job. He played piano in St. Louis at the Silver Dollar  
147 Saloon. When Scott was 28 years old, he went to college to study music.

161 Scott played a kind of music called ragtime. It had a bouncy rhythm.  
174 Ragtime was first called "ragged time." People thought it sounded like a  
186 piece of torn, ragged paper. Scott became friends with John Stark. John  
198 was a white man. It was unusual at that time for a black man and a white  
215 man to be friends. John helped Scott publish his music. They published  
227 more than 50 songs. "Maple Leaf Rag" was the most famous. It was  
240 published in 1899. "Maple Leaf Rag" was the first piece of sheet music to  
254 sell 1 million copies.

258 Scott also wrote two operas. The first one was called "A Guest of  
271 Honor." The original music score was lost. It has never been found. The  
284 second opera was named "Treemontsha." It was performed only one time,  
295 in 1915. Scott died two years later. He was buried in an unmarked grave.  
309 Fifty-seven years after his death, "Treemontsha" was performed again.  
319 Everyone who saw the opera loved it. It is considered to be the first  
333 American opera. "Treemontsha" was awarded the Pulitzer Prize in 1976.

343 Today, Scott Joplin's grave has a headstone. It reads "American  
353 Composer."  
354

Total Words Read \_\_\_\_\_

- Errors \_\_\_\_\_

- CWPM \_\_\_\_\_



## Appendix E

### Individual Student Data Log

# Appendix F.

## Individual Student Data Log

Participants Intervention Session Data Collection Sheet

Participant	IRL	Session →	1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b
		Rate												
		Accuracy												
		Passage #												
		Session →	7a	7b	8a	8b	9a	9b	10a	10b	11a	11b	12a	12b
		Rate												
		Accuracy												
		Passage #												
		Session →	13a	13b	14a	14b	15a	15b	16a	16b	17a	17b	18a	18b
		Rate												
		Accuracy												
		Passage #												
		Session →	19a	19b	20a	20b								
		Rate												
		Accuracy												
		Passage #												

Column a is the first reading of the session

Column b is the last reading of the session

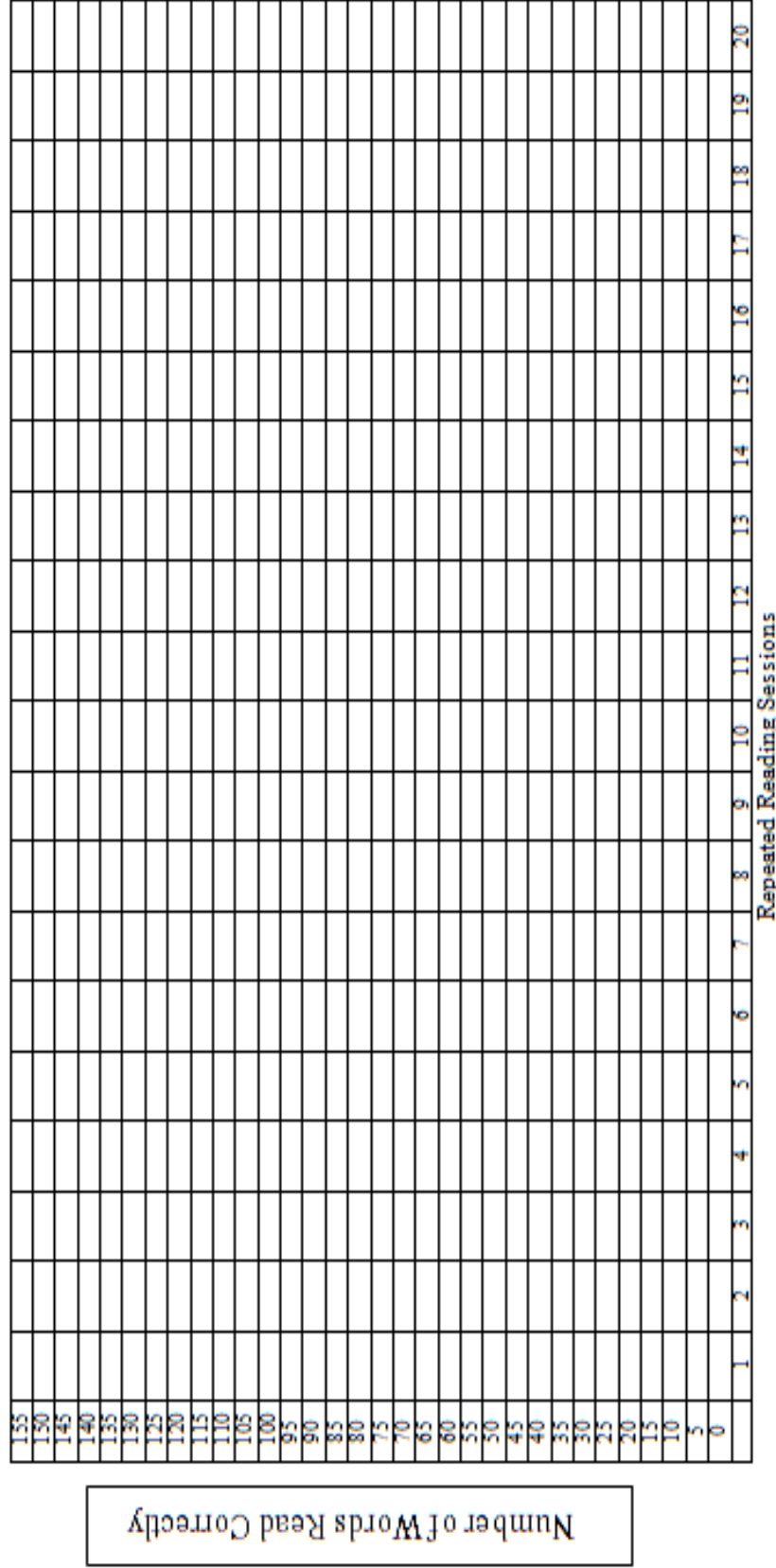
## Appendix F

Blank Chart for Graphing Words Correct Per Minute

# Appendix F

## Blank Chart for Graphing Words Correct Per Minute

Words Correct Per Minute with Repeated Readings



Participant's code: \_\_\_\_\_

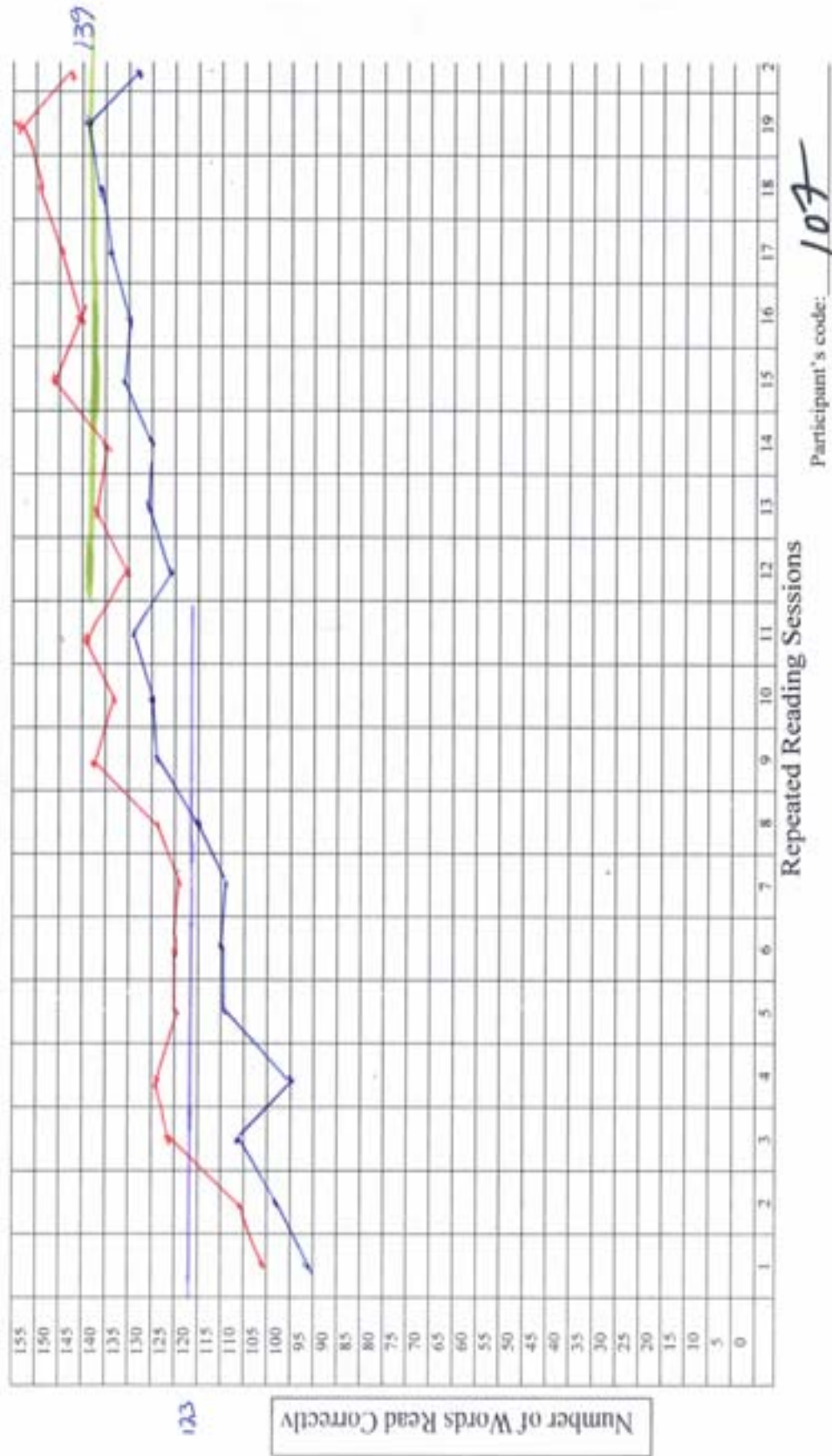
## Appendix G

### Completed Graph of Participant's Reading Rate

## Appendix G

### Completed Graph of Participant's Reading Rate

Words Correct Per Minute with Repeated Readings



## References

- Adams, M. J., & Anderson, R. C. (1977). *Beginning reading: Theory and practice. Reading Education Report No. 3*. Retrieved from <http://www.eric.ed.gov/PDFS/ED151722.pdf>
- Adams, G., & Brown, S. (2007a). *The six-minute solution: A reading fluency program (Intermediate level: Grades 3-6)*. Longmont, CO: Sopris West.
- Adams, G., & Brown, S. (2007b). *The six-minute solution: A reading fluency program (Secondary level: Grades 6-9)*. Longmont, CO: Sopris West.
- Allington, R. L. (1983). Fluency: The neglected reading goal. *The Reading Teacher*, 36(6), 556-561. Retrieved from <http://www.jstor.org.ezproxy.fau.edu/stable/pdfplus/20198272.pdf?acceptTC=true>
- Allington, R. L. (2006). Fluency: Still waiting after all these years. In S. J. Samuels & A. E. Farstrup (Eds.), *What research has to say about fluency instruction* (pp. 94-105). Newark, DE: International Reading Association.
- American Federation of Teachers (2004). *Waiting rarely works: "Late bloomers" usually just wilt*. Retrieved from <http://www.readingrockets.org/article/11360/>
- Armbruster, B. B., Lehr, F., & Osborn, J. (2001). *Putting reading first: The research building blocks for teaching children to read*. Retrieved from <http://www.eric.ed.gov/PDFS/ED458536.pdf>

- Begeny, J. C., Daly, E. J., & Vallely, R. J. (2006). Improving oral reading fluency through response opportunities: A comparison of phrase drill error correction with repeated readings. *Journal of Behavioral Education, 15*(4), 229-235. doi:10.1007/s10864-006-9028-4
- Blevins, W. (2001). *Building fluency: Lessons and strategies for reading success*. New York: Scholastic.
- Breznitz, Z. (1987). Increasing first graders' reading accuracy and comprehension by accelerating their reading rates. *Journal of Educational Psychology, 79*(3), 236-242. doi: 10.1037/0022-0663.79.3.236
- Cassidy, J., & Cassidy, D. (2008). What's hot for 2008. *Reading Today, 25*(4), 1, 10, 11. Retrieved from <http://www.reading.org/general/publications/readingtoday/rty-0802-hotlist.aspx>
- Chafouleas, S. M., Martens, B. K., Dobson, R. L., Weinstein, K. S., & Gardner, K. B. (2004). Fluent reading as the improvement of stimulus control: Additive effects of performance-based interventions to repeated reading on students' reading and error rates. *Journal of Behavioral Education, 13*(2), 67-81. doi: 10.1023/B:JOBE.0000023656.45233.6f
- Chard, D. J., Vaughn, S., & Tyler, B. (2002). A synthesis of research on effective interventions for building reading fluency with elementary students with learning disabilities. *Journal of Learning Disabilities, 35*(5), 386-406. doi: 10.1177/00222194020350050101



- Christle, C. A., & Yell, M. L. (2008). Preventing youth incarceration through reading remediation: Issues and solutions. *Reading & Writing Quarterly*, 24(2), 148-176. doi: 10.1080/10573560701808437
- Chomsky, C. (1976). After decoding: What? *Language Arts*, 53(3), 288-296.
- Daane, M. C., Campbell, J. R., Grigg, W. S., Goodman, M., J., & Oranje, A. (2005). *Fourth Grade Students Reading Aloud: NAEP 2002 Special Study of Oral Reading* (NCES 2006-469). U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics. Washington, DC: Government Printing Office.
- Deno, S. L. (1987). Curriculum-based measurement. *Teaching Exceptional Children*, 20(1), 41- 47.
- Deno, S. L. (2003). Developments in curriculum-based measurement. *The Journal of Special Education*, 37(3), 184-192. doi: 10.1177/00224669030370030801
- Denton, C. A., Fletcher, J. M., Anthony, J. L., & Francis, D. J. (2006). An evaluation of intensive intervention for students with persistent reading difficulties. *Journal of Learning Disabilities*, 39(5), 447-466. doi: 10.1177/00222194060390050601
- Devault, R., & Joseph, L. M. (2004). Repeated readings combined with word boxes phonics technique increases fluency levels of high school students with severe reading delays. *Preventing School Failure*, 49(1). doi: 10.3200/PSFL.49.1.22-27

- Dowhower, S. L. (1987). Effects of repeated reading on second-grade transitional readers' fluency and comprehension. *Reading Research Quarterly*, 22(4), 389-406. Retrieved from <http://links.jstor.org/sici?sici=0034-0553%28198723%2922%3A4%3C389%3AEORROS%3E2.0.CO%3B2-H>
- Fuchs, L. S., Deno, S. L., & Mirkin, P. K. (1984). The effects of frequent curriculum based measurement and evaluation on pedagogy, student achievement, and student awareness of learning. *American Education Research Journal*, 21(2), 449-460. doi: 10.3102/00028312021002449
- Fuchs, L. S., Fuchs, D., & Hamlett, C. L. (2007). Using curriculum-based measurement to inform reading instruction. *Reading and Writing: An Interdisciplinary Journal*, 20(6), 553-567. DOI 10.1007/s11145-007-9051-4
- Fuchs, L. S., Fuchs, D., Hosp, M. K., & Jenkins, J. R. (2001). Oral reading fluency as an Indicator of reading competence: A theoretical, empirical, and historical analysis. *Scientific Studies of Reading*, 5(3), 239-256. doi: 10.1207/S1532799XSSR0503\_3
- Fuchs, L. S., & Mathes, P.G. (1993). *Peer-mediated reading instruction in special education resource room settings: Final report*. Retrieved from <http://eric.ed.gov/PDFS/ED408804.pdf>
- Hasbrouck, J. E., & Tindal, G. (1992). Curriculum-based oral reading fluency norms for students in grades 2 through 5. *Teaching Exceptional Children*, 24(3), 41-44.
- Hasbrouck, J. E., & Tindal, G. (2006). Oral reading fluency norms: A valuable assessment tool for reading teachers. *The Reading Teacher*, 59(7), 636-644. doi: 10.1598/RT.59.7.3

- Hasbrouck, J. E., Woldbeck, T., Ihnot, C., & Parker, R. I. (1999). One teacher's use of curriculum-based measurement: A changed opinion. *Learning Disabilities Research & Practice, 14*(2), 118-126.
- Herman, P. A. (1985). The effect of repeated readings on reading rate, speech pauses, and word recognition accuracy. *Reading Research Quarterly, 20*(5), 553-565.  
Retrieved from: <http://www.jstor.org/stable/747942>
- Homan, S. P., Klesius, J. P., & Hite, C. (2004). Effects of repeated readings and nonrepetitive strategies on students' fluency and comprehension. *Journal of Educational Research, 87*(2), 94-99. Retrieved from:  
<http://www.jstor.org/pss/27541904>
- Hudson, R. F., Lane, H. B., & Pullen, P. C. (2005). Reading fluency assessment and instruction: What, why, and how. *The Reading Teacher, 58*(8), 702-714.  
doi:10.1598/RT.58.8.1
- Hudson, R. F., Pullen, P. C., Lane, H. B., & Torgesen, J. K. (2008). The complex nature of reading fluency: A multidimensional view. *Reading & Writing Quarterly, 25*(1), 4-32. doi: 10.1080/10573560802491208
- Juel, C. (1988). Learning to read and write: A longitudinal study of 54 children from first through fourth grades. *Journal of Educational Psychology, 80*(4), 437-447.  
doi:10.1037/0022-0663.80.4.437
- Kaufman, A. S., & Kaufman, N. L. (2004). *Kaufman Test of Educational Achievement Second Edition: Comprehensive Form Manual*. Circle Pines, MN: AGS Publishing

- Kim, Y-S., Petscher, Y., Schatschneider, C., & Foorman, B. (2010). Does growth rate in oral reading fluency matter in predicting reading comprehension achievement? *Journal of Educational Psychology, 102*(3), 652-667. doi:10.1037/a0019643
- Koskinen, P. S., & Blum, I. H. (1986). Paired repeated reading: A classroom strategy for developing fluent reading. *The Reading Teacher, 40*(1), 70-75.
- Kuhn, M. R., & Stahl, S. A. (2003). Fluency: A review of developmental and remedial practices. *Journal of Educational Psychology, 95*(1), 3-21. doi: 10.1037/0022-0663.95.1.3
- Kuhn, M. R., Schwanenflugel, P. J., & Meisinger, E. B. (2010). Aligning theory and assessment of reading fluency: Automaticity, prosody, and definitions of fluency. *Reading Research Quarterly, 45*(2), 230-251.
- Kutner, M., Greenberg, E., Jin, Y., Boyle, B., Hsu, Y., & Dunleavy, E. (2007). *Literacy in Everyday Life: Results from the 2003 National Assessment of Adult Literacy* (NCES 2007480). U.S. Department of Education. Washington, DC: National Center for Education Statistics.
- LaBerge, D., & Samuels, S. J. (1974). Toward a theory of automatic information processing in reading. *Cognitive Psychology, 6*, 293-323. doi:10.1016/0010-0285(74)90015-2
- Mastropieri, M. A., Leinhardt, A., & Scruggs, T. E. (1999). Strategies to increase reading fluency. *Intervention in School and Clinic, 34*(5), 278-283. doi: 10.1177/105345129903400504
- Meyer, M. S., & Felton, R. H. (1999). Repeated reading to enhance fluency: Old approach and new direction. *Annals of Dyslexia, 49*, 283-306.

- Moats, L. C. (1999). *Teaching reading is rocket science: What expert teachers of Reading should know and be able to do*. Retrieved from <http://eric.ed.gov/PDFS/ED445323.pdf>
- Morgan, P. L., & Sideridis, G. D. (2006). Contrasting the effectiveness of fluency interventions for students with or at risk for learning disabilities: A multilevel random coefficient modeling meta-analysis. *Learning Disabilities Research & Practice, 21*(4), 191-210. doi: 10.1111/j.1540-5826.2006.00218.x
- Morris, D., & Gaffney, M. (2011). Building reading fluency in a learning-disabled middle school reader. *Journal of Adolescent & Adult Literacy, 54*(5), 331-341. doi: 10.1598/JAAL.54.5.3
- National Endowment for the Arts (2004). *Reading at risk: A survey of literary reading in America: Research Division Report #46*. Retrieved from <http://eric.ed.gov/PDFS/ED484208.pdf>
- National Institute of Child Health and Human Development. (2000a). *Report of the Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction* (NIH Publication No. 00-4769). Washington, DC: U.S. Government Printing Office.

National Institute of Child Health and Human Development. (2000b). *Report of the National Reading Panel. Teaching children to read: an evidence-based assessment of the scientific research literature on reading and its implications for reading instruction: Reports of the subgroups* (NIH Publication No. 00-4754). Washington, DC: U.S. Government Printing Office.

No Child Left Behind (NCLB) Act of 2001, Pub. L. No. 107-110, § 115, Stat. 1425 (2002). Retrieved from <http://www2.ed.gov/policy/elsec/leg/esea02/107-110.pdf>

Osborn, J., Lehr, F., & Hiebert, E. (2003). *A focus on fluency*. Honolulu: Pacific Resources for Education and Learning.

O'Shea, L. J., & Sindelar, P. T. (1984). *The effects of repeated readings and attentional cuing on the reading fluency and comprehension of third graders*. Retrieved from <http://eric.ed.gov/PDFS/ED245186.pdf>

O'Shea, L. J., Sindelar, P. T., & O'Shea, D. J. (1987). The effects of repeated readings and attentional cues on the reading fluency and comprehension of learning disabled readers. *Learning Disabilities Research*, 2(2), 103-109.

Paige, D. D. (2006). Increasing fluency in disabled middle school readers: Repeated reading utilizing above grade level reading passages. *Reading Horizons*, 46(3), 167-181.

- Planty, M., Hussar, W., Snyder, T., Kena, G., KewalRamani, A., Kemp, J., Bianco, K., & Dinkes, R. (2009). *The Condition of Education. (NCES 2009-081)*. National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC.
- Pikulski, J. J., & Chard, D. J. (2005). Fluency: Bridge between decoding and reading comprehension. *The Reading Teacher*, 58(6), 510-519. doi:10.1598/RT.58.6.2
- Pinnell, G. S., Pikulski, J. J., Wixson, K. K., Campbell, J. R., Gough, P. B., & Beatty, A. S. (1995). *Listening to Children Read Aloud: Data from NAEP's Integrated Reading Performance Record (IRPR) at Grade 4*. U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics. Washington, DC: Government Printing Office.
- Pressley, M. (2006). *Reading instruction that works: The case for balanced teaching*. New York: Guilford Press.
- Rashotte, C. A., & Torgesen, J. K. (1985). Repeated reading and reading fluency in learning disabled children. *Reading Research Quarterly*, 20(2), 180–188. doi:10.1598/RRQ.20.2.4
- Rasinski, T. V. (1990). Effects of repeated reading and listening-while-reading fluency. *Journal of Educational Research*, 83(3), 147-150.
- Rasinski, T. V. (2000). Speed does matter in reading. *The Reading Teacher*, 54(2), 146-151. Retrieved from <http://www.jstor.org/stable/20204889>

- Rasinski, T. V. (2001). Effects of repeated reading and listening-while-reading on reading fluency. *Journal of Educational Research*, 83(3), 147-150. Retrieved from: <http://faculty.rcoe.appstate.edu/koppenhaverd/5040/resources/rdgfluency/Rasinski04.pdf>
- Rasinski, T. V. (2003). *The fluent reader: Oral reading strategies for building word recognition, fluency, and comprehension*. New York: Scholastic Professional Books.
- Rasinski, T. V. (2004). Creating fluent readers. *Educational Leadership*, 61(6), 46-51. Retrieved from <http://faculty.rcoe.appstate.edu/koppenhaverd/5040/resources/rdgfluency/Rasinski04.pdf>
- Rasinski, T. V., & Hoffman, J. V. (2003). Oral reading in the school literacy curriculum. *Reading Research Quarterly*, 38(4), 510-522.
- Rasinski, T. V., Padak, N. D., McKeon, C. A., Wilfong, L. G., Friedauer, J. A., & Heim, P. (2005). Is reading fluency a key for successful high school reading? *Journal of Adolescent & Adult Literacy*, 49(1), 22-27. doi: 10.1598/JAAL.49.1.3
- Roehrig, A. D., Petscher, Y., Nettles, S. M., Hudson, R. F., & Torgesen, J. K., (2008). Accuracy of the DIBELS oral reading fluency measure for predicting third grade reading comprehension outcomes. *Journal of School Psychology*, 46(3), 343-366. doi:10.1016/j.jsp.2007.06.006
- Rutenber, D. (2009). *High school literacy: A quick stats fact sheet*. National High School Center. Retrieved from <http://eric.ed.gov/PDFS/ED507600.pdf>



- Samuels, S. J. (1979). The method of repeated readings. *Reading Teacher*, 32(4), 403-408. Retrieved from <http://www.jstor.org/stable/20194790>
- Samuels, S. J. (1988). Decoding and automaticity: Helping poor readers become automatic at word recognition. *The Reading Teacher*, 41(8), 756-760. Retrieved from <http://www.jstor.org/stable/20199918>
- Samuels, S. J., & Farstrup, A. E., (2006). *What research has to say about fluency instruction*. Newark, DE: International Reading Association.
- Schreiber, P. A. (1980). On the acquisition of reading fluency. *Journal of Reading Behavior*, 12(3), 177-186.
- Shaywitz, S. E., & Shaywitz, B. A. (2004). Reading disability and the brain. *Educational Leadership*, 61(6), 6-11.
- Shinn, M., Good, R., Knutson, N., Tilly, W. D., & Collins, V. L. (1992). Curriculum based measurement of oral reading fluency: A confirmatory analysis of its relation to reading. *School Psychology Review*, 21(3), 459-479. Retrieved from <http://www.lease-sped.org/Northern%20IL%20Partnership/CBM%20validity/CBM%20of%20ORF.pdf>
- Sindelar, P. T., Monda, L. E., & O'Shea, L. J. (1990). Effects of repeated readings on instructional- and mastery-level readers. *The Journal of Educational Research*, 83(4), 220-226. Retrieved from <http://www.jstor.org/pss/27540387>
- Snow, C.E., Burns, M. S., & Griffin, P. (Eds.). (1998). *Preventing reading difficulties in young children*. Retrieved from <http://eric.ed.gov/PDFS/ED416465.pdf>

- Stahl, S. A., Heubach, K., & Cramond, B. (1997). *Fluency-oriented reading instruction: Reading research report no. 79*. Retrieved from <http://www.eric.ed.gov.ezproxy.fau.edu/PDFS/ED405554.pdf>
- Stahl, S. A., & Kuhn, M. R. (2002). Making it sound like language: Developing fluency. *Reading Teacher*, 55(6), 582-584.
- Stanovich, K. E. (1980). The interactive-compensatory model of reading: A confluence of developments, experimental, and educational psychology. *Remedial and Special Education*, 5(3), 11-19. doi: 10.1177/074193258400500306
- Stanovich, K. E. (1984). Toward an interactive-compensatory model of individual differences in the development of reading fluency. *Reading Research Quarterly*, 16(1), 32-71.
- Stanovich, K. E. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. *Reading Research Quarterly*, 21(4), 360-407. Retrieved from [http://www.psychologytoday.com/files/u81/Stanovich\\_\\_1986\\_.pdf](http://www.psychologytoday.com/files/u81/Stanovich__1986_.pdf)
- Therrien, W. J. (2004). Fluency and comprehension gains as a result of repeated reading: A meta-analysis. *Remedial and Special Education*, 25(4), 252-162. doi: 10.1177/07419325040250040801
- Topping, K. J., Samuels, S. J., & Paul, T. (2007). Does practice make perfect? Independent reading quantity, quality, and student achievement. *Learning and Instruction*, 17(3), 253-264. doi:10.1016/j.learninstruc.2007.02.002

Vaughn, S., Wanzek, J., Wexler, J., Barth, A., Cirino, P. T., Fletcher, J., . . . Francis, D.

(2009). The relative effects of group size on reading progress of older students with reading difficulties. *Reading and Writing*, 23(8), 931-956. doi:

10.1007/s11145-009-9183-9

Wexler, J., Vaughn, S., Edmonds, M., & Reutebuch, C. K. (2008). A synthesis of

fluency interventions for secondary struggling readers. *Reading and Writing*,

21(4), 317-347. doi: 10.1007/s11145-007-9085-7

Yurick, A. L., Robinson, P. D., Cartledge, G., Lo, Y., & Evans, T. L. (2006). Using peer

mediated repeated readings as a fluency-building activity for urban learners.

*Education & Treatment of Children*, 29(3), 469-506.