

If I Read Better, Will I Score Higher ?:
The Relationship between Systematic Oral Reading Fluency Instruction
and Standardized Reading Achievement Test Outcomes

by

Chad H. Waldron

Edinboro University of Pennsylvania

Submitted in Partial Fulfillment of the Requirements
for the Master of Education in Reading Degree

Approved

December 2008

TABLE OF CONTENTS

Chapter 1- Introduction.....	8
Background Statement.....	8
Statement of the Problem.....	10
Definitions.....	11
Conclusion.....	18
Chapter 2- Review of Related Literature.....	19
Introduction.....	19
Oral Reading Fluency.....	19
Instructional Strategies Improving Oral Reading Fluency.....	25
Curriculum-Based Measurement of Oral Reading Fluency.....	28
Oral Reading Fluency and Tests.....	35
Summary.....	40
Conclusion.....	42
Chapter 3- Research Methods.....	43
Introduction.....	43

Description of the Site.....	43
Description of the Population.....	44
Sample Method.....	44
Instruments.....	45
Procedures.....	46
Design and Analysis.....	47
Limitations.....	48
Assumptions.....	49
Threats to Validity.....	49
Conclusion.....	50
Chapter 4- Data Results and Presentation.....	52
Introduction.....	52
Overview of Procedures.....	52
Data Analysis of the <i>4Sight Pennsylvania Benchmark Reading Assessments</i>	54
Data Analysis of the <i>DIBELS Oral Reading Fluency Benchmark</i>	55
Data Analysis of the <i>QuickReads</i> Repeated Reading Charts.....	56
Presentation of the Results.....	57
Conclusion.....	69
Chapter 5- Discussion and Conclusions.....	70
Introduction.....	70
Research Problem.....	70
Hypothetical Conclusions.....	72

Implications for Future Research.....	78
Conclusion.....	81
References.....	83
Appendix A.....	91
Appendix B.....	92
Appendix C.....	93
Appendix D.....	94
Appendix E.....	95
Appendix F.....	96
Appendix G.....	97
Appendix H.....	98
Appendix I.....	99
Appendix J.....	100
Appendix K.....	101
Appendix L.....	102
Appendix M.....	103
Appendix N.....	104
Appendix O.....	105
Appendix P.....	106
Appendix Q.....	107
Appendix R.....	108
Appendix S.....	109

Appendix T.....	110
Appendix U.....	111

LIST OF TABLES

Table 1. *Paired t-test analysis of the 4Sight Pennsylvania Benchmark Reading Assessments.*

Table 2. *Independent t-test analysis of the 4Sight Pennsylvania Benchmark Reading Assessments- Grade 4.*

Table 3. *Independent t-test analysis of the 4Sight Pennsylvania Benchmark Reading Assessments- Grade 5.*

Table 4. *Paired t-test analysis of the DIBELS Oral Reading Fluency Benchmarks.*

Table 5. *Independent t-test analysis of the DIBELS Oral Reading Fluency Benchmarks- Grade 4.*

Table 6. *Independent t-test analysis of the DIBELS Oral Reading Fluency Benchmarks- Grade 5.*

FIGURE CAPTIONS

Figure 1. The *QuickReads* repeated reading charts for the fourth grade experimental group denoting a cluster sampling of five median word per minute scores.

Figure 2. The *QuickReads* repeated reading charts for the fifth grade experimental group denoting a cluster sampling of five median word per minute scores.

CHAPTER 1

Introduction

Background Statement

Research suggests a moderate to strong relationship exists between a student's oral reading fluency and his or her achievement in reading (Roehrig, Petscher, Nettles, Hudson, & Torgesen, 2008; Schilling, Carlisle, Scott, & Zeng, 2007; Spear-Swerling, 2006; Stage & Jacobsen, 2001; Wood, 2006). Though oral reading fluency is viewed as a component of literacy development, a limited body of research exists on the correlation between systematic oral reading fluency instruction and reading achievement as measured through local or state reading achievement measures. In this era of assessment including the federal law of No Child Left Behind (2001) and the Reading First initiative (2002), local education agencies must demonstrate adequate yearly progress (AYP) in their students' achievements toward proficiencies in literacy (U.S. Department of Education, 2008). At the local level, curriculum-based assessments measuring literacy proficiencies allow for timely instructional interventions to deter failures on high-stakes testing and ensure adequate yearly progress (AYP) is achieved. Classroom teachers,

educational specialists, and school administrators are faced with the monumental task of implementing alternative, continuous assessment measures to monitor progress toward mastery of state academic standards and for establishing benchmarks for grade-level proficiency (Good, Simmons, & Kame'enui, 2001; Martens et al., 2007; Roehrig et al., 2008; Stage & Jacobsen, 2001). Through these assessment measures, informative results must be provided in a timely and efficient manner to every educational stakeholder making data-informed decisions for instructional planning and remedial interventions (Baker et al., 2008; Stage & Jacobsen, 2001). Measures in oral reading fluency provide immediate data results, which pinpoint instructional needs and identify students who may be “at-risk” in achieving reading proficiency.

Fluency is an identified component of literacy instruction. The National Reading Panel in 2000 identified fluency instruction as one of the five critical components of effective literacy instruction (National Reading Panel, 2000). Empirical research supports the benefit of proficient oral reading in overall literacy achievement and development (Good et al., 2001; Martens et al., 2007; National Reading Panel, 2000). Oral reading fluency is defined as the automaticity in decoding text orally with accurate word recognition, speed, and prosody (Fuchs, Fuchs, Hosp, & Jenkins, 2001; Hasbrouck & Tindal, 2006; Richards, 2002; Roehrig et al., 2008; Shinn & Good, 1992). As oral reading fluency increases, a student allocates less cognitive resources to the process of decoding (Good et al., 2001; Therrien & Kubina, 2007), constructs meaning for reading comprehension (Spear-Swelling, 2006), and develops academic proficiency in foundational reading skills (Good et al., 2001). Empirical research has also demonstrated

the instructional benefit of oral reading fluency instruction for students who are “at-risk” in achieving literacy proficiencies. Oral reading fluency can be used to identify students who are not responding to interventions within the classroom setting (Martens et al., 2007; Schilling et al., 2007), identify students needing additional educational services beyond the regular classroom setting (Baker et al., 2008; Roehrig et al., 2008), or support progress in literacy development for students with learning disabilities (Therrien, 2004). This study will further the research on systematic oral reading fluency instruction and reading achievement as measured by standardized reading assessments.

Statement of the Problem

This study will examine the difference between an experimental group and a control group in standardized reading achievement. This difference will be measured by standardized reading assessments to determine the effect of systematic oral reading fluency instruction with repeated readings. This study will examine whether a difference exists between the reading achievement scores of the experimental group and the reading achievement scores of the control group. This study will include students in fourth and fifth grades who attend two elementary schools within one northwestern Pennsylvania school district. The study will incorporate grade level text passages from a commercially published oral reading fluency instructional program (*QuickReads*) as the treatment for this study on systematic oral reading fluency instruction with repeated readings (Hiebert, 2003). The treatment will be conducted during the core reading program with approximately ten to fifteen minutes of allotted instructional time daily. It will occur over a three-day period within each week throughout the duration of the study.

The duration of this study will be approximately three calendar months and include two nine-week academic grading periods. The two variables of interest will be measured through standardized and curriculum-based measurements. The *4Sight Pennsylvania Benchmark Reading Assessments*, published by the Success for All Foundation, will measure the variable of standardized reading assessment scores (Success for All Foundation, 2008). The *Dynamic Indicators of Early Literacy Skills (DIBELS) Oral Reading Fluency Benchmark and Progress Monitoring* assessments, published by the University of Oregon Center on Teaching and Learning, will measure the variable of oral reading fluency rate (University of Oregon Center on Teaching and Learning, n.d.). This study will use a quasi-experimental research design. The quantitative results of this study will be analyzed through paired and independent t-test analyses. The descriptive quantitative results of the median words per minute scores from the experimental group will be analyzed for variations in the oral reading fluency rate across a sampling of instructional weeks.

Definitions

The terminology relevant to this study is defined below to provide clarity in the understandings and interpretations of the study.

Adequate Yearly Progress (AYP)

Under the federal No Child Left Behind Act of 2001, it is the responsibility of every state to determine summative assessments measuring student achievement within its local education agencies (LEAs). These assessments will determine if the LEAs are making adequate yearly progress (AYP). According to the United States Department of

Education (2008), “AYP is an individual state’s measure of progress toward the goal of 100 percent of students achieving state academic standards in at least reading/language arts and math. It sets the minimum level of proficiency that the state, its school districts, and schools must achieve each year on annual tests and related academic indicators” (§1).

Below Basic Reading Performance

Below basic reading performance is defined as lacking the acquisition of early reading skills and strategies critical to proficient on grade level reading achievement (Martens et al., 2007).

Core Reading Program

The core reading program is “the primary instructional tool [or tools] that teachers use to teach children to learn to read and ensure they reach reading levels that meet or exceed grade-level standards” (Simmons & Kame’enui, 2003, p.1). The program addresses the instructional needs of the students served within a school or school district in order to fit the needs of a majority of learners. The core reading program should also reflect research-based instructional practices in the field of reading and be made distinguishable from the reading interventions used with striving readers (Foorman, 2007; Simmons & Kame’enui, 2003).

DIBELS

DIBELS, or Dynamic Indicators of Basic Early Literacy Skills, is defined as an assessment of oral reading fluency. This series of one-minute fluency assessments measure accuracy and speed in the reading of related texts (Baker et al., 2008; Good et al., 2001).

Fluency

According to Roehrig et al. (2008), fluency is the automatic and accurate word identification supporting reading comprehension. It is the “ability to decode words in text effortlessly or automatically so that readers can reserve their precious and limited cognitive resources for the more important task of comprehending or making sense of the text” (Rasinski & Padak, 2005, p. 34). Fluency is also defined as the “ability to phrase written text in appropriate and meaningful chunks, which is reflected in [the] readers’ use of expression, pausing, emphasis, and enthusiasm while reading orally” (Rasinski & Padak, 2005, p. 35).

Informal Reading Inventory (IRI)

An informal reading inventory is defined as a teacher-created or commercially published set of leveled passages. The passages implemented with a miscue analysis can be used to determine a student’s independent, instructional, or frustrational reading level (Hasbrouck & Tindal, 2006). These inventories often include leveled word lists to provide a gradient of independent, instructional, or frustrational levels for a student’s sight word vocabulary. The leveled passages often include sets of comprehension questions to use with a student after the reading of the passage has been completed.

Oral Reading Fluency (ORF)

Oral reading fluency is defined as the automaticity in decoding text orally with accurate word recognition, speed, and prosody (Fuchs, Fuchs, Hosp, & Jenkins, 2001; Hasbrouck & Tindal, 2006; Richards, 2002; Roehrig et al., 2008; Shinn & Good, 1992). Oral reading fluency is measured in correct words per minute (CWPM) in any given text (Roehrig et

al., 2008). The behavioral definition of oral reading fluency defines it as a “direct measure of phonological segmentation and recoding skill as well as rapid word recognition” (Fuchs, Fuchs, Hosp, & Jenkins, 2001, p. 241).

Prosody

According to Kuhn & Stahl (2003), prosody is defined as reading orally with expressive qualities. It is the “ability to project natural pitch, stress, and juncture of the spoken word on written text, automatically and at a natural rate” (Richards, 2002, p. 107). Prosody also encompasses the chunking of groups of words into meaningful phrasings to build comprehension within a text (Kuhn & Stahl, 2003).

QuickReads

The *QuickReads* program is a commercially published, research-based fluency program consisting of “short texts that are designed to be read quickly and meaningfully” (Hiebert, 2003, p. 3). This program works to develop fluency, comprehension, and background knowledge, three areas identified by the National Reading Panel (2000) as critical to effective literacy instruction. According to Hiebert (2003), each of the four instructional levels within the *QuickReads* program consists of nine science and nine social studies topics with five related text passages for each topic. Each passage also includes comprehension questions to measure a student’s use of “consistent comprehension strategies” and “critical knowledge” (p. 3).

R-CBM

According to Hamilton & Shinn (2003), R-CBM is a curriculum-based measurement of reading, which analyzes oral reading fluency, comprehension, or a combination of these reading skills.

Repeated Reading

Repeated reading is defined as an instructional strategy for fluency and comprehension with the “rereading [of] a short, meaningful passage several times until a satisfactory level of fluency is reached” (Samuels, 1997, p. 377). This instructional “procedure is repeated with a new passage [each time the student has accomplished satisfactory fluency with a previous passage]” (p. 377).

Reading Proficiency

Reading proficiency could be defined as a student’s proficient or non-proficient achievement as measured by standardized local or state-adopted reading assessment measures.

Under the federal law of No Child Left Behind (2001), local and state education agencies must have all students reading at grade level proficiency by the year 2014. These grade level proficiencies in reading are determined yearly by state-adopted reading assessment measures. These measures indicate the adequate yearly progress (AYP) of local and state education agencies toward the year 2014 proficiency benchmark (No Child Left Behind Act of 2001).

Reading proficiency can also be defined by a student's progress towards attaining reading skills as identified through each state's grade-level definition of academic content standards in reading (National Accessible Reading Assessment Projects, 2006). Every state education agency has adopted academic content standards in reading to identify critical reading skills instructed for practice and mastery. These standards guide instructional programming, assessment practices, and curriculum development in local education agencies. The academic content standards found in each state are often greatly varied in content and significantly different in the measurement of skills or competencies across the spectrum of elementary or secondary grade levels (National Accessible Reading Assessment Projects).

The National Assessment Governing Board (2008) defines the achievement level of proficient on the NAEP as the following:

This level represents solid academic performance for each grade assessed. Students reaching this level have demonstrated competency over challenging subject matter, including subject-matter knowledge, application of such knowledge to real-world situations, and analytical skills appropriate to the subject matter. (p. 44)

The National Assessment of Educational Progress (NAEP) is "a continuing and nationally representative measure of achievement" in reading (National Assessment of Educational Progress, 2007, p.2). These national assessment measures in a variety of

instructional areas can also provide a definition of reading proficiency for the elementary and secondary school years.

The National Assessment of Educational Progress evaluates reading proficiency in grades fourth, eighth, and twelfth by assessing how “readers must access words in texts, use the structure of texts, make sense of vocabulary as it is embedded in a text, understand sentences and paragraphs, and comprehend what they read” (National Accessible Reading Assessment Projects, 2006).

Response to Intervention (RTI)

In December 2004, President George W. Bush signed the Individuals with Disabilities Education Improvement Act into federal law (IDEA, 2004). This revised law included an alternative model, known as Response to Intervention (RTI), as “a means of providing early intervention to all children who are at risk for school failure” (Fuchs & Fuchs, 2006, p. 93). This alternative model also seeks to construct valid procedures in identifying students who may have reading disabilities. The Response to Intervention model seeks to find “whether or not the student can respond to either typical classroom instruction, or the type of support that is possible in the typical classroom” (Gersten & Edomono, 2006, p. 100). According to Vaughn, Fuchs, & Fuchs (2003):

This model has been termed ‘a three-tiered prevention model’ with primary intervention consisting of the general education program; secondary intervention involving the fixed duration, intensive, standard protocol trial (with the goal of remediating the academic deficit rather than

enhancing general education); and tertiary intervention synonymous with special education. (p.139)

Words Read Correctly Per Minute (WRCM)

Words Read Correctly Per Minute, or WRCM, is the number of word errors in a given text passage subtracted from the total number of words contained in that text passage read in one minute (Silberglitt & Hintze, 2005).

Conclusion

Research suggests a moderate to strong relationship exists between a student's oral reading fluency and his or her achievement in reading (Roehrig, Petscher, Nettles, Hudson, & Torgesen, 2008; Schilling, Carlisle, Scott, & Zeng, 2007; Spear-Swerling, 2006; Stage & Jacobsen, 2001; Wood, 2006). This research study will examine the difference between an experimental group and a control group in standardized reading achievement. This difference will be measured by standardized reading assessments to determine the effect of systematic oral reading fluency instruction with repeated readings. A body of research in reading exists outlining the instructional strategies for improving oral reading fluency as well as examining the role of oral reading fluency in relation to academic achievement.

CHAPTER 2

Review of Related Literature

Introduction

Oral reading fluency can be used as a measure of reading achievement in the elementary school grades (Spear-Swelling, 2006). This review of related literature will examine oral reading fluency, instructional strategies improving oral reading fluency, curriculum-based measurement of oral reading fluency, and oral reading fluency and tests.

Oral Reading Fluency

Reading Instruction and the Importance of Oral Reading Fluency

Many school-age children in the United States are not achieving reading proficiency. The *National Assessment of Educational Progress* (NAEP) concluded approximately 34% of fourth graders did not achieve basic proficiency on a national reading assessment (Lee, Grigg, & Donahue, 2007). Although literacy instruction is a major component of any individual's education, many students fail to master basic reading skills and strategies in the elementary school years (Therrien, 2004). The federal

No Child Left Behind Act of 2001 and other legal policy initiatives throughout the United States have placed an increased emphasis on academic achievement and progress monitoring. These initiatives have also provided great resources for the early identification of academic skill difficulties along with instructional tools to measure a student's responsiveness to interventions for these difficulties (Fuchs & Fuchs, 2006; Hintze & Silbergitt, 2005). The Response to Intervention (RTI) initiative has increased the use of oral reading fluency in monitoring and assessing reading progress or performance. According to Schilling, Carlise, Scott, & Zeng (2007), "fluency measures can be used not only to identify students who appear to be having substantial difficulties in learning to read but also to assess effectiveness of instruction and/or interventions used to promote progress in reading" (p. 431). Oral reading fluency can be used as an indicator of overall reading proficiency, particularly within the elementary school grades (Spear-Swelling, 2006).

Oral reading fluency is one of several components to overall literacy achievement. It builds upon word recognition capacities, specific word combination constructs, prosodic cue memorization, prior knowledge in reading, and whole passage comprehension (Therrien & Kubina, 2007). Oral reading fluency serves as a correlate to comprehension beyond the behaviors observed with decoding patterns (Baker et al., 2008). In constructing the overall literacy achievement of any student, oral reading fluency remains a serious factor of consideration. With the evident lack of proficient reading achievement nationwide, a "utility of fluency-based indicators of foundational reading skills [exists] to inform instructional decisions early enough to change outcomes

before reading problems become too large and established” (Good, Simmons, & Kame’enui, 2001, p. 285). Measures in oral reading fluency enable educational stakeholders to make timely and accurate instructional decisions for the benefit of student achievement. In this era of “high-stakes testing” and student achievement, local education agencies must demonstrate measured improvements in student achievement through state achievement tests in reading. These agencies must monitor student progress toward the mastery of proficiency benchmarks or goals for adequate yearly progress (AYP) according to state and federal educational laws (Crawford, Tindal, & Steiber, 2001).

The National Reading Panel and Oral Reading Fluency

In the late 1990s, there was growing concern in the United States over the achievement of the nation’s students in reading. The United States Congress acted upon this concern by examining the pedagogy and practices impacting student achievement in literacy development. The National Reading Panel, or NRP, was formed in 1997 as a national panel within the National Institute of Child Health and Human Development (NICHD) at the National Institutes of Health to investigate and determine effective approaches in teaching children to read (National Reading Panel, n.d., Formation of the NRP section, ¶1). The National Reading Panel spent over two years researching and analyzing best instructional practices in reading instruction. In April 2000, the NRP submitted their findings to the United States Senate through the document entitled “The Report of the National Reading Panel: Teaching Children to Read” (National Reading Panel, n.d., Work of the NRP section, ¶1). This report would become the catalyst for

change in reading instruction and instructional practices at all levels of education throughout the United States.

The National Reading Panel report concluded five major areas for reading instruction: phonemic awareness, phonics, fluency, vocabulary, and text comprehension. The research reviewed by the Panel demonstrated instructional necessity and value in each of these areas for “how to successfully teach children to read” (Armbruster & Osborn, 2003, p. iii). In summarizing the research and findings in reading, fluency was found to be a “neglected” component of reading instruction while being identified as “a critical component of skilled reading” (National Reading Panel, 2000, p. 3-1). Fluency can demonstrate levels of reading proficiency in school-age children, but it remains an area of limited instructional focus within the educational programming of schools in the United States. Repeated reading and wide reading “have been widely recommended as appropriate and valuable [instructional] avenues for increasing fluency and overall reading achievement” (National Reading Panel, 2000, p. 3-28). The reading process involves the decoding of individual words and forming those decoded words into groups of words for comprehending a text selection. Students who lack fluency often invest more time and energy into the process of reading while exhibiting poor reading comprehension. “Fluency is an essential part of reading” because it allows a reader to efficiently apply decoding processes while strategically orchestrating the comprehension of a text (National Reading Panel, 2000, p. 3-28).

Defining Oral Reading Fluency

Fluency is most commonly referred to as oral reading fluency. Oral reading fluency is the automaticity in decoding text orally with accurate word recognition, speed, and prosody (Fuchs, Fuchs, Hosp, & Jenkins, 2001; Hasbrouck & Tindal, 2006; Richards, 2002; Roehrig et al., 2008; Shinn & Good, 1992). The phrasing of text and expressive behavior must exist in proficient oral reading fluency. According to Rasinski & Padak (2005), oral reading fluency must also include the “ability to phrase written text in appropriate and meaningful chunks, which is reflected in readers’ use of expression, pausing, emphasis, and enthusiasm while reading orally” (pp. 34-35). Oral reading fluency is measured in correct words per minute (CWPM) in any given text (Roehrig et al., 2008). Correctly identifying words in a text supports the building of reading comprehension.

The behavioral definition of oral reading fluency is defined as a “direct measure of phonological segmentation and recoding skill as well as rapid word recognition” (Fuchs, Fuchs, Hosp, & Jenkins, 2001, p. 241). Automatic decoding and phonological awareness must be established reading skills for proficient oral reading fluency. According to Wood (2006), developmental differences and individual abilities within these reading skills may account for the variations in oral reading fluency. These variations in oral reading fluency will determine a student’s reading proficiency and comprehension (Shinn & Good, 1992). Oral reading fluency is a critical attribute to overall proficiency in reading. “The ability to read text effortlessly, quickly, accurately,

and with expression plays an essential role in becoming a competent [and capable] reader” (Hasbrouck & Tindal, 2006, p. 643).

Considerations with Oral Reading Fluency Instruction

Oral reading fluency instruction should be included as an instructional component of overall literacy instruction in the elementary school grades. It is found to be most beneficial with children who read beyond the pre-primer level or who possess foundational reading skills (Martens et al., 2007). Oral reading fluency instruction can also serve as an instructional intervention to students in the upper elementary grades who struggle in the process of reading. According to Rasinski & Padak (2005), “instruction in fluency for older students who have not yet achieved appropriate levels of fluency in their reading may open the way for significant improvements in comprehension, overall reading achievement, and achievement in the content areas that are reading dependent” (p. 40). Oral reading fluency instruction builds upon the foundational reading skills to transition readers into higher levels of reading engagement. With the progression of each grade level, the nature and difficulty of texts increases and the reader must establish new fluency in unfamiliar readings. It is necessary to model fluent reading and develop the nature of reading across subject areas within a grade level continuum (Rasinski & Padak). Through modeling, a student can observe and integrate the behaviors and skills of fluent readers within and throughout the contexts of reading. Oral reading fluency instruction, as a part of a literacy program, assists readers in their continued literacy growth and helps “these struggling readers [to] gain the skills they need to become successful readers” (Rasinski & Padak, 2005, p. 34). Effective, research-based instructional strategies have

been created to aid classroom teachers and school districts with the implementation of oral reading fluency instruction for the benefit of students who are proficient to “at-risk” in reading achievement.

Instructional Strategies Improving Oral Reading Fluency

Instructional Strategy of Repeated Reading

Repeated Reading is an instructional strategy for fluency and comprehension with the “rereading [of] a short, meaningful passage several times until a satisfactory level of fluency is reached” (Samuels, 1997, p. 377). This instructional “procedure is repeated with a new passage [each time the student has accomplished satisfactory fluency with a previous passage]” (p. 377). It has been proven through years of research to be an effective instructional strategy in improving oral reading fluency. Repeated Reading improves oral reading fluency not only in students within the regular education program, but also students who are identified with a learning disability (Therrien, 2004). Through the rereading of a particular passage, a student improves fluency in word recognition and phrasing while building comprehension of the whole passage. Repeated Reading creates a transfer effect of linguistic knowledge from one repeated reading to the next reading, building upon foundational reading skills and improving fluency strategies (Therrien & Kubina, 2007). Research involving Repeated Reading has demonstrated the value found in the oral reading of passages with corrective feedback provided by another person while progressing to achieve set oral fluency rate benchmarks. According to Therrien (2004),

If repeated reading is intended as an intervention to improve students’ overall reading fluency and comprehension (i.e., transfer), there are three

essential components: Passages should be read aloud to an adult, corrective feedback on word errors should be given, and passages should be read until a performance criterion is reached. (p. 259)

Repeated Reading must use progress-monitoring tools to capture students' achievement in oral reading rate and the number of errors made within a passage.

Repeated Reading has been shown to improve a student's word recognition skills and decoding strategies. As a student becomes proficient in rapidly recognizing words, cognitive focus moves from decoding the words to strategically comprehending the entire text (Therrien & Kubina, 2007). The student is able to lessen miscues and increase oral reading rate. Therrien & Kubina also state a student becomes more efficient in the process of reading as he or she reads words in context rather than out of context (i.e. word lists). The instructional strategy of Repeated Reading aids a student to become a proficiently fluent reader.

Additional Instructional Strategies for Oral Reading Fluency

Numerous commercial materials and programs exist in the support of oral reading fluency instruction. *Read Naturally*, *QuickReads*, and *The Six-Minute Solution* are published materials or programs designed to teach fluency as a component in the core reading instructional program (Hasbrouck & Tindal, 2006). Matching these fluency materials or programs to the students' instructional needs in oral reading fluency is pertinent to measured growth in oral reading fluency rates. According to Martens et al. (2007), "a targeted fluency-building program...matched closely to students' instructional levels can produce significant gains in generalized oral reading fluency" (p. 52).

Independent reading provides students with a wide variety of texts for building reading fluency. These texts are often self-selected by the student for aesthetic reading purposes. Independent reading texts are given at the independent reading level for the student. Within this text level, the student can often recognize words with automaticity and develop fluent reading strategies. Spear-Swerling (2006) concludes, “Independent reading gives children exposure to a wide range of skills essential to reading comprehension, including new vocabulary and background knowledge” (p. 201). In acquiring new vocabulary and building background knowledge, the student builds upon his or her fluency strategies in reading.

Response to Intervention (RTI), as an alternative identification method and instructional framework for assisting students who may have reading difficulties, can provide supplemental instruction in oral reading fluency (Fuchs & Fuchs, 2006). The second and third tiers within a Response to Intervention (RTI) framework provide instructional opportunities to build upon oral reading fluency (Baker et al., 2008; Vaughn, Fuchs, & Fuchs, 2003). Within Tier Two, students may be provided with additional oral reading fluency instruction within the core reading program. Within Tier Three, targeted areas of need in oral reading fluency are provided to the student within the dynamics of a small group or a one-on-one instructional setting beyond the core reading program. This supplemental instruction in Tier Two and Tier Three of the RTI framework can affect the outcomes of oral reading fluency rate and overall reading achievement (Baker et al., 2008, Vaughn, Fuchs, & Fuchs, 2003).

Informal reading inventory passages can be used to assist students in improving oral reading fluency. An informal reading inventory is a teacher-created or commercially published set of leveled passages. The passages implemented with a miscue analysis can be used to determine a student's independent, instructional, or frustrational reading level (Hasbrouck & Tindal, 2006). These inventories often include leveled word lists to provide a gradient of independent, instructional, or frustrational levels for a student's sight word vocabulary. The leveled passages often include sets of comprehension questions to use with a student after the reading of the passage has been completed. The gradient of levels can be used to identify students who are not fluent in grade level texts or need additional instructional opportunities in building fluency. These passages can also measure students' comprehension of text after orally reading a passage. They can also be used as progress monitoring assessments to evaluate the students' progress in increasing their oral reading fluency rate and the effectiveness of oral reading fluency instruction (Hasbrouck & Tindal).

Through the implementation of these aforementioned assessments and strategies in oral reading fluency instruction, students benefit from differentiated instruction with leveled text opportunities, which expand oral reading fluency and increase reading achievement at appropriate instructional levels.

Curriculum-Based Measurement of Oral Reading Fluency

Curriculum-based Measurement

In using end-of-year summative assessments as the high-stakes testing for measuring adequate yearly progress (AYP) in student achievement, the improvement or

declines measured by the assessment outcomes fails to be applicable at both state and local education agency levels. There is also a lack of systematic assessment in the early childhood grades to denote early literacy growth (Silberglitt & Hintze, 2005). To receive predictive data on these assessment outcomes for every student, school districts often administer local achievement-based or academic standards-based tests. In order for these tests to be effective and useful, these assessment measures must identify desired criteria for proficient achievement of established academic benchmarks assessed through high-stakes testing. School-based assessment measures, such as curriculum-based measures in oral reading fluency, monitor student achievement or growth and allow for timely interventions to prevent possible failures on high-stakes testing measures (Good et al., 2001). These curriculum-based measures can be used to direct instructional practice and interventions for assessment success. According to Sibley (2001), “these assessments are generally driven by increased efforts at accountability and/or a need to measure student progress relative to the instructional curriculum. In other words, assessment should inform instruction, not simply tell us how students are performing” (pp. 2-3).

Curriculum-based measures evaluate the long-term goals and objectives of instruction within the school setting, rather than the short-term goals of an achievement score on one summative assessment. These measures establish progress monitoring to ensure student performance is continually assessed on current instructional foci, as well as past and future benchmarks in learning, within the context of instruction (Hintze & Silberglitt, 2005). The performance indicators obtained from progress monitoring with curriculum-based measures indicate student achievement relative to current instructional

goals and retention of previous learning. These measures also serve as a screening tool for “at-risk” students who are experiencing literacy difficulties (Hintze & Silbergitt). Curriculum-based measures can indicate literacy difficulties through an understanding of literacy development before these difficulties become established and irreversible (Good et al., 2001).

Curriculum-based measures evaluate student learning in relation to the instruction received and academic benchmarks necessary for demonstrating proficiency. The characteristics of design in curriculum-based measures include reliability, validity, simplicity, efficiency, understandable results, and inexpensive implementation (Deno, 1985). The measure is designed to reflect student achievement through its correlation between the delivered curriculum of instruction and the goals for academic proficiency. Curriculum-based measures offer an alternative approach to more standardized achievement tests by measuring an individual student and comparing the achievement to other peers within the same assessment population. These measures use the curriculum as the basis for the test design. It provides an evaluation to all education stakeholders on student achievement and instructional effectiveness. Hintze & Silbergitt (2005) also conclude curriculum-based measures differ from “mastery or criterion-referenced [assessment] approaches whereby the assessment material changes with each new short-term objective requiring the curriculum to be decomposed and compartmentalized for assessment” (p. 373).

Curriculum-based measures empower classroom teachers and other educational specialists within the school to foster solutions for student achievement. These measures

provide efficient and applicable results on students' attainment of current and previous learning goals. "The teacher can initiate problem analysis on the student's reading difficulty in order to tailor instruction to the student's educational needs" (Stage & Jacobsen, 2001, p. 416). In implementing curriculum-based measures, local education agencies are given valid and reliable predictions of student achievement on proficiency benchmarks as well as predicted performance on high-stakes testing. These measures also provide an approximation of student performance in the subsequent year's goals (Good et al., 2001). Curriculum-based measures are "procedures that function as the 'vital signs' of student educational health" and the effectiveness of instructional delivery within the school (Deno, 1985, p. 230).

Curriculum-based Measurement of Reading

A curriculum-based measure often used in educational settings is the assessment of oral reading fluency. This measure focuses on the assessment of a student's oral reading rate and the words read correctly per minute (WRCM). This curriculum-based measurement of reading, referred to as R-CBM, measures oral reading fluency, reading comprehension or both literacy skills (Hamilton & Shinn, 2003). Performance on this measurement can be used to inform educational stakeholders of student achievement and predict proficiency on other assessment measures. Extensive research in curriculum-based measurement of reading has proven its validity and reliability as a measure of student achievement and proficiency. "ORF [oral reading fluency] is the most thoroughly studied of all CBM [curriculum-based measures] and has generated the most empirical support for its use" (Baker et al., 2008, p. 19). Curriculum-based measurements of

reading in oral reading fluency can inform instructional practices in literacy and serve as an assessment of students' progress in literacy achievement.

A variety of curriculum-based measurements of reading have been published for use in educational settings. *DIBELS*, *AIMSweb*, *the Texas Primary Reading Inventory-TPRI*, and *Reading Fluency Monitor* are commercially produced curriculum-based measurements of reading. The *DIBELS Oral Reading Fluency Benchmarks* is one of the most widely known and frequently implemented curriculum-based measurements of reading (University of Oregon Center on Teaching and Learning, n.d., Why Use DIBELS, para. 1). This measure is also one of only a few commercially available with empirical data serving as a standardized oral reading fluency assessment (Roehrig, Petscher, Nettles, Hudson, & Torgesen, 2008). DIBELS, or Dynamic Indicators of Basic Early Literacy Skills, is a series of short reading skill assessments including oral reading fluency. This one-minute fluency assessment measures accuracy and speed in the reading of related texts while identifying students who may need additional instruction (Good et al., 2001; Roehrig et al.). DIBELS provides three yearly achievement benchmarks in oral reading fluency rates for first through sixth grades. These benchmarks identify a continuum of students who may be “at-risk” of failing to meet proficiency to students who are at a low risk of failing to meet proficiency on reading achievement measures (Schilling, Carlise, Scott, & Zeng, 2007). The *DIBELS Oral Reading Fluency Benchmarks* is one example of a commercial resource available for use as a curriculum-based measurement of reading achievement.

Local education agencies have traditionally constructed measurements of oral reading fluency. These curriculum-based measurements of reading are created from passage selections taken from local grade level reading curricula, such as a basal or anthology of literature (Martens et al., 2007). These measures would require students to read three passage selections within a one-minute timing per passage. Only words read correctly per minute (WRCM) are calculated in the oral reading rate outcome in a majority of curriculum-based measures of reading (Martens et al., 2007; Stage & Jacobsen, 2001). The outcomes of each curriculum-based measurement of reading are compared to oral reading fluency rate cut scores at national normative performance percentiles. These cut scores are constructed to identify students who are meeting proficiency in oral reading with scores of ten words above or below the 50th percentile score identified as proficient in a particular grade level (Hasbrouck & Tindal, 2006). Established cut scores in curriculum-based measurements of reading provide a valid, frequent measurement of student progress, over time, in reading achievement. “These consistent cut scores provide benchmarks on which to base the student’s responsiveness to intervention” in oral reading fluency (Silberglitt & Hintze, 2005, p. 322).

Using established cut scores in curriculum-based measurements of reading assist in identifying students who may be “at-risk” of failing to achieve literacy proficiency. Students who meet oral reading fluency cut scores are likely to meet or exceed reading achievement goals, while, conversely, students who do not meet oral reading fluency cut scores are likely to score with low achievement on reading achievement goals (Good et al., 2001). These cut scores provide achievement determinations at various points

throughout the school year, such as fall, winter, or spring, to assist classroom teachers and other educational specialists in constructing instructional interventions and monitoring effectiveness in these interventions for oral reading fluency improvements. One cautionary note for oral reading fluency cut scores is the relationship between students who exhibit word calling behaviors and the overestimation of oral reading fluency outcomes. Curriculum-based measurements of reading may identify “word callers”, or students who read text fluently while lacking comprehension, as attaining proficiency in oral reading, resulting in these outcomes masking authentic literacy difficulties (Hamilton & Shinn, 2003). It is crucial for classroom teachers and other educational specialists to implement professional judgment in evaluating the achievement of students exhibiting the literacy behavior of “word callers” and outcome scores in relation to established cut scores. According to Sibley, Biber, & Hesch (2001), “effective ORF benchmarks should allow us to predict, with some precision, what percentage of students are likely to meet, or not meet, established standards on state and/or local standardized achievement tests” (p. 8).

Curriculum-based measurements of reading can serve as one assessment tool within the school-wide or district plan of assessments for measuring proficiency in literacy achievement. These measures enable local education agencies to identify students who are developing literacy difficulties and implement timely interventions for the benefit of students’ literacy progress. Curriculum-based measurements of reading, developed from the local literacy curriculum and focused on identifying proficiencies in applicable learning standards, are more accurate than high-stakes testing by measuring

current instructional effectiveness in contrast to summative learning outcomes provided after the conclusion of instruction. Research studies have examined the applicability of curriculum-based measures of reading in measuring proficiency in literacy through oral reading fluency. Curriculum-based measurements of reading are “indicators of [a student’s] skill level in a complex domain involving many component skills” (McGlinchey & Hixson, 2004, p. 201). These measures serve as “a broad signal of the multifaceted construct of reading and its ability to index student performance across a variety of contexts” (Hintze & Silbergitt, 2005, p. 374).

Oral Reading Fluency and Tests

Oral Reading Fluency as a Predictor of Reading Achievement

Curriculum-based measurements of reading are useful to effectively predict student achievement in standardized reading assessments and estimate proficiency on academic learning standards in literacy. Research in oral reading fluency has demonstrated “a significant relationship between oral reading fluency and [scores on] reading achievement tests” (Wood, 2006, p. 99). These measurements in oral reading fluency enable school officials to review student data and evaluate the number of students who are meeting academic achievement benchmarks. As concluded by Hasbrouck & Tindal (2006), “fluency-based screening measures can be valuable tools for teachers to use in the same way that a physician uses a thermometer- as one reasonably dependable indicator of student’s academic ‘health’ or ‘illness’” (p. 640).

Oral reading fluency assessments often correlate with assessments of reading comprehension. According to research completed by Spear-Swerling (2006), third grade

oral reading fluency outcomes and reading comprehension scores strongly correlate with fourth grade reading comprehension scores. This correlation demonstrates the necessity of proficient oral reading fluency in building reading comprehension. Numerous studies have proven a moderate to strong relationship between oral reading fluency rate and overall literacy achievement (Baker et al., 2008). Outcomes in oral reading fluency assessments can predict literacy achievement. Stage & Jacobsen (2001) report a single score in oral reading fluency is a more accurate predictor than the average of multiple oral reading fluency measures in predicting achievement on standardized reading assessments (Stage & Jacobsen, 2001). Measures in oral reading fluency can predict literacy achievement on standardized reading assessments and provide an assessment of reading proficiency. As stated by Hasbrouck & Tindal (2006):

Decades of research have validated the use of fluency-based measures for making essential decisions about which students may need assistance in becoming a skilled reader (screening), an individual student's strength or need with the skills of reading fluency (diagnosis), and whether a student is making adequate progress toward the goals of improved reading proficiency (progress monitoring). (p. 643)

Oral reading fluency assessments are a valid and reliable predictor of student reading achievement, while useful in making timely decisions for intervention or instructional effectiveness.

Relationship between Oral Reading Fluency and State Reading Achievement Tests

Research has suggested a relationship between curriculum-based measurements of reading in oral reading fluency and state achievement test results in reading. According to Silbergliitt & Hintze (2005), curriculum-based measurements of reading and state achievement tests in reading are found to have predictive and concurrent validity including a high degree of diagnostic accuracy. These findings have been supported by research studies using various state achievement test measures and oral reading fluency outcomes. In research by Wood (2006), oral reading fluency outcomes predicted the achievement of third, fourth, and fifth graders on the *Colorado Student Assessment Program (CSAP)*. This study also “suggests that the relationship between oral reading fluency and reading comprehension is relatively consistent across the intermediate grades”, serving as a reliable source of cut scores in oral reading fluency to determine proficiency on the *CSAP* (p. 100). Roehrig et al. (2008) also found strong correlations in using oral reading fluency outcomes to predict achievement outcomes on *Florida’s Comprehensive Assessment Test (FCAT)*. “The most significant predictor of risk on the *FCAT-SSS* was ORF” (p. 359).

The student achievement outcomes of the *Washington Assessment of Student Learning (WASL)* have been studied for a correlation with oral reading fluency outcomes. According to Stage & Jacobsen (2001), “September ORF cut-scores can provide valuable information so that students at-risk of failing state-mandated performance-based reading assessments can receive reading intervention prior to failing this high-stakes assessment” (p. 416). The September oral reading fluency outcomes also provided the best prediction

of student achievement on the *WASL* when compared to oral reading fluency outcomes throughout the academic year (Stage & Jacobsen). In research from Hintze & Silbergitt (2005), curriculum-based measurements of reading and student achievement on the *Minnesota Comprehensive Assessments (MCA)* were found to be correlated when compared at timely benchmarking intervals between oral reading fluency outcomes and state achievement test scores.

Curriculum-based measurements of reading in oral reading fluency are accurate in predicting outcomes of student performance on state achievement tests. A moderate to strong correlation between oral reading fluency outcomes and state achievement test scores have been proven through research studies (McGlinchey & Hixson, 2004).

“Students at or above cut scores [in oral reading fluency] had a high probability of ‘passing’ the state test, and students below cut scores [in oral reading fluency] had a high probability of ‘failing’ the state test” (Silbergitt & Hintze, 2005, p. 306). Curriculum-based measurements of reading in oral reading fluency have demonstrated usefulness in instructional planning and interventions in order to promote achievement on state achievement tests in reading.

Relationship between Oral Reading Fluency and Standardized Reading Achievement Tests

National standardized reading achievement tests are given to thousands of students throughout the United States each year. These assessments of reading are viewed as valid and reliable measures of reading proficiency (McGlinchey & Hixson, 2004).

These assessments are used to report the adequate yearly progress (AYP) of students and

profile instructional achievement benchmarks of every school under the No Child Left Behind Act of 2001. Curriculum-based measurements of reading in oral reading fluency can provide approximations of student achievement on reading achievement tests. Measurements in oral reading fluency are often administered weeks before the standardized reading achievement test to predict achievement outcomes (McGlinchey & Hixson). Cut scores in oral reading fluency outcomes are often used to identify students who may be proficient and students who may be “at-risk” to fail standardized reading achievement tests.

Research suggests a correlation between oral reading fluency outcomes and standardized reading achievement test scores. According to Schilling et al. (2007), the *Iowa Test of Basic Skills (ITBS)* and *DIBELS* show strong correlation at any benchmarking interval. “Overall, fall ORF was reasonably accurate in identifying students whose reading was below average on the *ITBS* reading total in the spring” (p. 442). A student’s attainment of proficiency in reading achievement is often dependent on fluent reading behaviors. As aptly stated by Baker et al. (2008),

The consistent link between ORF and criterion measures of reading performance has been established primarily with students in Grades 3 and higher. Consequently, these studies are quite relevant to the context of No Child Left Behind (2002), in which annual assessments are required beginning in Grade 3. (p. 20)

Based on this study by Baker, in this era of high-stakes testing and assessment, oral reading fluency could be used as a predictive measure of student achievement on standardized reading tests.

Summary

Oral Reading Fluency- Impacting Literacy Instruction and Assessment

The No Child Left Behind Act of 2001 and Reading First initiatives have placed increased emphasis on the use of standardized reading achievement measures to identify students who are “at-risk” of failures in literacy progress and need additional instructional interventions. These federal laws and programs demand accountability from each state and local education agency in student achievement. “Teachers need other performance indicators, related to statewide [or national] achievement tests, that are available more frequently so that instructional programs can be improved in a timely fashion” (Crawford, Tindal, & Stieber, 2001, p. 304).

Curriculum-based measurements of reading in oral reading fluency instruction can provide school officials with efficient approximations in performance outcomes. Establishing the relationship between curriculum-based measurements of reading in oral reading fluency and various state achievement examinations will encourage educational stakeholders to adopt practices in curriculum-based measurements for promoting oral reading fluency within local education agencies (McGlinchey & Hixson, 2004). These correlations must be established through further research in curriculum-based measurements of reading in oral reading fluency and state achievement measures in reading.

Oral reading fluency is a powerful component of literacy instruction and assessment. It is the generalizing and applying reading competency from the decoding of words to the retaining of meaning within texts (Martens et al., 2007). The use of oral reading fluency measures can support core reading program instruction and provide a response with interventions for students who are identified as “at-risk” for not achieving literacy proficiencies. Measurement of student achievement is an indicator of the successes or the needs of educational programming. By measuring student achievement through oral reading fluency measures or reading achievement tests, educational stakeholders must critically evaluate a student’s literacy achievement with the considerations of growth in proficiencies. “Teachers [have] expressed a preference for continuous pictures of performance rather than single snapshots” (Deno, 1985, p. 220). Oral reading fluency measures support data-informed instruction and interventions within the curriculum, which is assessed through reading achievement tests.

Local education agencies must demonstrate adequate yearly progress (AYP) in students’ literacy achievement from third grade until high school graduation. These agencies must evaluate the correlation between systematic oral reading fluency instruction and reading achievement through standardized reading assessments. In systematically evaluating proficiencies in literacy, oral reading fluency measures can be used over several months and years as a gauge of competency in reading skills and overall literacy growth (Baker et al., 2008). The validity and reliability of oral reading fluency measures as instruments to predict standardized reading achievement outcomes have been demonstrated through research studies (Hintze & Silbergliitt, 2005; Roehrig et

al., 2008; Schilling et al., 2007; Stage & Jacobsen, 2001; Wood, 2006). “Oral reading fluency is a valid measure of reading ability for elementary students” (McGlinchey & Hixson, 2004, p. 194). Curriculum-based measurements of reading in oral reading fluency can complement a school-wide or district assessment plan, which evaluates instructional effectiveness and identifies students who need instructional interventions to promote oral reading fluency development. Through effective evaluation of instructional techniques and appropriate implementation of achievement interventions, students can make adequate yearly progress (AYP) toward achieving literacy proficiency.

Conclusion

Oral reading fluency should be a component of literacy instruction and assessment. Measures in oral reading fluency enable local education agencies to make appropriate instructional decisions benefiting student achievement in order to attain goals set forth for adequate yearly progress (AYP) under the federal law of No Child Left Behind (2001). This research study will further examine the relationships between a curriculum-based measurement of reading in oral reading fluency and a state achievement measure in reading.

CHAPTER 3

Research Methods

Introduction

This study will examine the difference between an experimental group and a control group in standardized reading achievement. This difference will be measured by standardized reading assessments to determine the effect of systematic oral reading fluency instruction with repeated readings. This study will examine whether a difference exists between the reading achievement scores of the experimental group and the reading achievement scores of the control group.

Description of the Site

This study will include students in fourth and fifth grades who attend two elementary schools within one northwestern Pennsylvania school district. The school district is defined as a rural school district, serving a population of 12,950 residents (Pennsylvania Department of Education, 2008).

Description of the Population

The elementary school receiving the experimental treatment has 33% of its total student population of 355 students qualifying for free or reduced lunches (Pennsylvania Department of Education, 2008). The fourth and fifth grade populations within this elementary school are composed of 130 students with approximately 73 males and 57 females. Approximately 97% of the students within the fourth and fifth grades population are identified as White in ethnicity. Approximately 3% of the students within the fourth and fifth grades population are identified as multi-racial in ethnicity (Pennsylvania Department of Education). This population also includes students who have Individualized Education Plans (IEPs) for learning disabilities and speech difficulties.

Sample Method

A convenience sampling of approximately 52 fourth grade students and 66 fifth grade students will be used from pre-established populations within each of the aforementioned grade levels. The experimental group will consist of 26 fourth grade and 33 fifth grade students from one elementary school within the selected school district. The control group will consist of 26 fourth grade and 33 fifth grade students from a second elementary school within the same school district. This control sample of students will follow identical test administration criteria, but will not receive the repeated reading treatment of the *QuickReads* curriculum. The students participating in this study will be assigned a random number and all data collected will be coded using the random number assignment.

Instruments

The two variables of interest will be measured through standardized and curriculum-based measurements. The *4Sight Pennsylvania Benchmark Reading Assessments*, published by the Success for All Foundation, will measure the variable of standardized reading achievement scores. Each assessment version is modeled to meet the applicable Pennsylvania State Board of Education Academic Standards accessed at a particular grade level. The question style and format of each assessment version mirrors the structure of the Pennsylvania System of School Assessment (PSSA) Tests administered every spring in third through eleventh grades (Success for All Foundation, 2008, p. 18). Inter-form reliability on the *4Sight Pennsylvania Benchmark Reading Assessments*, calculated using Pearson correlation, ranged from 0.69 to 0.78, indicating reliability in the outcome scores of the measure (Success for All Foundation, 2008, p. 19). The concurrent predictive validity established between fall 2006 *4Sight Pennsylvania Benchmark Reading Assessments* for fourth grade and spring 2007 PSSA scores was 0.83 (Success for All Foundation, 2008, p.19). The concurrent predictive validity established between fall 2006 *4Sight Pennsylvania Benchmark Reading Assessments* for fifth grade and spring 2007 PSSA scores was 0.85 (Success for All Foundation, 2008, p.19).

The *Dynamic Indicators of Early Literacy Skills (DIBELS) Oral Reading Fluency Benchmark and Progress Monitoring* assessments, published by the University of Oregon Center on Teaching and Learning, will measure the variable of oral reading fluency rate. The *DIBELS* are individual, norm-referenced, and curriculum-based assessments of

reading skills required for proficient literacy development (DIBELS, 2008, About DIBELS). The *Oral Reading Fluency Benchmarks and Progress Monitoring* tools, included in *DIBELS*, measures a child's oral reading fluency (ORF) in grade-level appropriate passages (DIBELS, 2008, About DIBELS: Oral Reading Fluency/Retell Fluency). The resulting ORF rate is compared to oral reading fluency norms for that particular grade level to determine the "risk" of reading difficulty (DIBELS, 2008, About DIBELS: DIBELS Benchmark Levels).

Procedures

The duration of this study will be approximately three calendar months and include two nine-week academic grading periods. Upon the completion of review by the Human Subjects Review Board at Edinboro University of Pennsylvania and the granting of permission by the participating school district, the study will commence in the beginning of the 2008-2009 academic year. Two *4Sight Pennsylvania Benchmark Reading Assessment* scores will be collected during this study. The *4Sight Pennsylvania Benchmark Reading Assessment* will be administered by each classroom teacher within the population according to the guidelines set forth by the test publisher in the administration of the tests. Two *DIBELS Oral Reading Fluency Benchmark* scores will be collected during this study. The *DIBELS Oral Reading Fluency Benchmarks and Progress Monitoring* will be administered by the researcher within the experimental treatment population according to the guidelines set forth by the test publisher in the administration of the tests.

This study will incorporate grade level text passages from a commercially published oral reading fluency instructional program (*QuickReads*) as the treatment in this study for systematic oral reading fluency instruction with repeated readings (Hiebert, 2003). The treatment will be conducted during the core reading program by the literacy teacher for each grade level with approximately ten to fifteen minutes of instructional time allocated daily for systematic oral reading fluency instruction with repeated readings throughout the duration of the study. *QuickReads* with repeated readings will be delivered to the participating students in the experimental group to increase oral reading fluency rate and accuracy. The researcher will instruct and model for the participating classroom teachers within the experimental group on the implementation and delivery of the *QuickReads* curriculum with the repeated reading component. The *DIBELS Oral Reading Fluency Benchmarks* will be used to progress monitor the students' growth or changes in oral reading fluency. These outcomes will be compared to the students' standardized reading achievement scores on the *4Sight Pennsylvania Benchmark Reading Assessments*. The instructional components of this study will be incorporated with the delivery of the core reading program.

Design and Analysis

This study will use a quasi-experimental design. Both the experimental and the control groups will be administered a pre-test and a post-test in the *DIBELS Oral Reading Fluency Benchmarks* and the *4Sight Pennsylvania Benchmark Reading Assessments*. The experimental group will receive the treatment for the study. The experimental treatment will consist of using *QuickReads* grade-level passages with repeated opportunities for

students to read orally. The control group will consist of using *QuickReads* grade-level passages without repeated opportunities for students to read orally, which is currently standard practice as well as being the publisher's recommendations. Both groups of participating teachers are trained in the administration of the *4Sight Pennsylvania Benchmark Reading Assessments* and the *DIBELS Oral Reading Fluency Benchmarks*. Both groups will follow the test publisher's directions and protocols in the administration of the instruments.

A paired t-test analysis will be used to determine pre-test and post-test differences in each group at the $p=.05$ level of significance. Independent t-test analysis will be used to compare pre-test performance between groups on both instruments and post-test performance between groups on both instruments at the $p=.05$ level of significance. The data collected from both instruments will also be analyzed through qualitative methods. Median words per minute scores provided on a weekly basis from the experimental group will also provide descriptive quantitative data on the variations with the oral reading fluency rate as part of the systematic oral reading fluency instruction within the core reading program. This data will provide analysis of the students' oral reading fluency rate across instructional time. These median words per minute scores provided on a weekly basis will provide additional explanations of the outcomes of the treatment.

Limitations

Limitations to this study include parental rejection of participation. Parents may choose not to allow their minor child to participate as a part of the population in this study. Another limitation is the incorrect implementation of the instruments. The

participating classroom teachers within the population or the researcher may fail to implement an instrument as defined in the guidelines set forth by the assessment's publisher. A lack of ethnic diversity within the population is another limitation. A large majority of the population is identified as white in ethnicity. A final limitation is the control group of the study. The second elementary school used as the control group is a rural elementary school. The demographics of the student body and the geographic location of the second elementary school are similar to the first elementary school.

Assumptions

Assumptions can affect the variables of this study's outcomes. One such assumption is that the participating classroom teachers within the population will be implementing systematic oral reading fluency instruction through the *QuickReads* curriculum materials while using effective literacy instructional practices. A second assumption is that all study participants will adhere to the assessment procedures of each instrument according to guidelines set forth by the assessment's publisher. Another assumption of this study is that participating classroom teachers within the population will follow all procedures and guidelines set forth in this study.

Threats to Validity

Threats to validity can affect the outcomes of this study. Treatment fidelity is an internal threat to the validity of the data obtained through this study. Treatment fidelity may become a threat if the assessments are administered incorrectly or are not in accordance with the guidelines prescribed. Generalizability is an external threat to the validity of the data obtained through this study. Generalizability can threaten the small

sample size from a limited population. Another external threat to the validity of the data obtained in this study is the Hawthorne Effect. Participants in the experimental group may perform higher on the reading achievement measures because they are knowingly a part of a research study.

History is an internal threat to validity to the post-test outcomes of the study. When groups are under study in educational settings, these groups can experience events or instruction, unrelated to the treatment protocol, which may impact performance on the post-test outcome measures. This internal threat to validity is present in both the control and experimental groups at the fourth and fifth grade levels because a new core reading program will be implemented this academic year within this school district. Student input is another internal threat to validity. The students participating in the treatment of the experimental group will be required to self-monitor their oral reading fluency rate across time in *QuickReads* with repeated readings. Inaccurate or inflated word per minute (WPM) scores may be noted in the course of the study, which will create invalid measurements of oral reading fluency rate variations. These external and internal threats to validity are important variables to consider with this study.

Conclusion

This study will examine the difference between an experimental group and a control group in standardized reading achievement as measured by standardized reading assessments as a result of systematic oral reading fluency instruction with repeated readings. This study will examine whether a difference exists between the reading achievement scores of the experimental group and the reading achievement scores of the

control group. This quasi-experimental research study will analyze the quantitative data of a pre-test and a post-test in the *DIBELS Oral Reading Fluency Benchmarks* and the *4Sight Pennsylvania Benchmark Reading Assessments* through a paired t-test analysis. Median words per minute scores provided on a weekly basis from the experimental group will also provide descriptive quantitative data on the variations with the oral reading fluency rate as part of the systematic oral reading fluency instruction within the core reading program curriculum.

CHAPTER 4

Data Presentation and Results

Introduction

This research study examined the difference between an experimental group and a control group in standardized reading achievement. The difference was measured by the standardized reading assessments of the *4Sight Pennsylvania Benchmark Reading Assessments* and the *DIBELS Oral Reading Fluency Benchmark* to determine the effect of systematic oral reading fluency instruction with repeated readings. Paired and independent t-test analyses were used to determine pre-test and post-test differences within and among the experimental and control groups respectively at the fourth and fifth grade levels. A line graph was used for descriptive quantitative analysis of the variations in the median oral reading rates of the experimental group's self-recorded word per minute (WPM) rates for *QuickReads* with repeated readings.

Overview of Procedures

The duration of this study was approximately three calendar months and included two nine-week academic grading periods. The study commenced at the beginning of the

2008-2009 academic year after the completion of review by the Human Subjects Review Board at Edinboro University of Pennsylvania and the granting of permission by the participating school district. Two *4Sight Pennsylvania Benchmark Reading Assessment* scores were collected during this study. The *4Sight Pennsylvania Benchmark Reading Assessment* was administered by each classroom teacher within the population according to the guidelines set forth by the test publisher in the administration of the tests. Two *DIBELS Oral Reading Fluency Benchmark* scores were collected during this study. The *DIBELS Oral Reading Fluency Benchmarks* were administered by the researcher within the experimental treatment population according to the guidelines set forth by the test publisher in the administration of the tests. In the control group population, the *DIBELS Oral Reading Fluency Benchmarks* were administered by a trained reading specialist according to the guidelines set forth by the test publisher in the administration of the tests.

This study incorporated grade level text passages from a commercially published oral reading fluency instructional program (*QuickReads*) as the treatment in this study for systematic oral reading fluency instruction with repeated readings (Hiebert, 2003). The treatment was conducted during the core reading program by the literacy teacher for each grade level with approximately ten to fifteen minutes of instructional time allocated daily for systematic oral reading fluency instruction with repeated readings throughout the duration of the study. *QuickReads* with repeated readings was delivered to the participating students in the experimental group to increase oral reading fluency rate and accuracy. The researcher instructed and modeled for the participating classroom teachers

within the experimental group on the implementation and delivery of the *QuickReads* curriculum with the repeated reading component. The *DIBELS Oral Reading Fluency Benchmarks* was used to progress monitor the students' growth or changes in oral reading fluency. These outcomes will be compared to the students' standardized reading achievement scores on the *4Sight Pennsylvania Benchmark Reading Assessments*. The instructional components of this study were incorporated with the delivery of the core reading program.

Data Analysis of the 4Sight Pennsylvania Benchmark Reading Assessments

The *4Sight Pennsylvania Benchmark Reading Assessments*, published by the Success for All Foundation, measured the variable of standardized reading achievement scores. Inter-form reliability on the *4Sight Pennsylvania Benchmark Reading Assessments*, calculated using Pearson correlation, ranged from 0.69 to 0.78, indicating reliability in the outcome scores of the measure (Success for All Foundation, 2008, p. 19). The concurrent predictive validity established between fall 2006 *4Sight Pennsylvania Benchmark Reading Assessments* for fourth grade and spring 2007 PSSA scores was 0.83 (Success for All Foundation, 2008, p.19). The concurrent predictive validity established between fall 2006 *4Sight Pennsylvania Benchmark Reading Assessments* for fifth grade and spring 2007 PSSA scores was 0.85 (Success for All Foundation, 2008, p.19).

The experimental and the control groups were administered a pre-test and a post-test in the *4Sight Pennsylvania Benchmark Reading Assessments*. Both groups of participating teachers were trained in the administration of the *4Sight Pennsylvania*

Benchmark Reading Assessments. Both groups followed the test publisher's directions and protocols in the administration of the instrument. A paired t-test analysis was used to determine pre-test and post-test differences on the *4Sight Pennsylvania Benchmark Reading Assessments* in each group at the $p=.05$ level of significance. Independent t-test analysis was used to compare pre-test performance between groups on the *4Sight Pennsylvania Benchmark Reading Assessments* and post-test performance between groups on the *4Sight Pennsylvania Benchmark Reading Assessments* at the $p=.05$ level of significance. The data collected from this instrument was also analyzed through qualitative methods.

Data Analysis of the DIBELS Oral Reading Fluency Benchmark

The *Dynamic Indicators of Early Literacy Skills (DIBELS) Oral Reading Fluency Benchmark* assessments, published by the University of Oregon Center on Teaching and Learning, measured the variable of oral reading fluency rate. The *Oral Reading Fluency Benchmarks*, included in *DIBELS*, measures a child's oral reading fluency (ORF) in grade-level appropriate passages (DIBELS, 2008, About DIBELS: Oral Reading Fluency/Retell Fluency). The resulting ORF rate is compared to oral reading fluency norms for that particular grade level to determine the "risk" of reading difficulty (DIBELS, 2008, About DIBELS: DIBELS Benchmark Levels).

The experimental and the control groups were administered a pre-test and a post-test in the *DIBELS Oral Reading Fluency Benchmarks* appropriate to the grade level designation. Both groups of participating teachers were trained in the administration of the *DIBELS Oral Reading Fluency Benchmarks*. Both groups followed the test

publisher's directions and protocols in the administration of the instrument. A paired t-test analysis was used to determine pre-test and post-test differences on the *DIBELS Oral Reading Fluency Benchmarks* in each group at the $p=.05$ level of significance.

Independent t-test analysis was used to compare pre-test performance between groups on the *DIBELS Oral Reading Fluency Benchmarks* and post-test performance between groups on the *DIBELS Oral Reading Fluency Benchmarks* at the $p=.05$ level of significance. The data collected from this instrument was also analyzed through qualitative methods.

Data Analysis of QuickReads Repeated Reading Charts

This study incorporated grade level text passages from a commercially published oral reading fluency instructional program (*QuickReads*) as the treatment in this study for systematic oral reading fluency instruction with repeated readings (Hiebert, 2003).

QuickReads with repeated readings was delivered to the participating students in the experimental group to increase oral reading fluency rate and accuracy. Each participating student in the experimental group recorded a words per minute (WPM) score daily for each of the three instructional days in the treatment protocol.

A median word per minute (WPM) score from the three scores in the three instructional days each week was determined in the experimental group for nine instructional weeks. These scores provide descriptive quantitative analysis on the variations of the oral reading fluency rate as part of the systematic oral reading fluency instruction within the core reading program. A cluster sampling of five instructional weeks was captured from the pre-established experimental groups at the fourth and fifth

grade levels. The sampling was converted into a line graph to show variations in the median words per minute (WPM) score across the five sampled instructional weeks.

Presentation of the Results

Results of the 4Sight Pennsylvania Benchmark Reading Assessments

A paired t-test analysis was used to determine pre-test and post-test differences on the *4Sight Pennsylvania Benchmark Reading Assessments* in each group at the $p=.05$ level of significance. This analysis was performed on pre-test and post-test outcomes of the fourth grade experimental group, the fourth grade control group, the fifth grade experimental group, and the fifth grade control group. The mean of the pre-test and post-test outcomes, the calculated t-test result, and the degrees of freedom from the sample were calculated in this analysis (see Table 1).

Table 1.

Paired t-test analysis of the 4Sight Pennsylvania Benchmark Reading Assessments

Grade and group	4Sight Assessment		<i>t</i>	<i>df</i>
	Pretest <i>M</i>	Posttest <i>M</i>		
4 ^a				
Control	19.85	21.81	3.17*	25
Experimental	20.15	22.73	2.13*	25
5 ^b				
Control	21.03	19.79	1.92	32
Experimental	21.82	23.42	3.85**	32

Note. ^a*n* = 26 for each group. ^b*n* = 33 for each group.

*At $p \leq .05$, *t* critical two-tail = 2.06. **At $p \leq .05$, *t* critical two-tail = 2.04.

As shown in Table 1, the post-test of the fourth grade control group is significantly different from the pre-test of the fourth grade control group at $p \leq .05$ level. The post-test of the fourth grade experimental group is significantly different from the pre-test of the fourth grade experimental group at the $p \leq .05$ level. In fifth grade, there is no significant difference between the pre-test and the post-test of the control group at the $p \leq .05$ level (see Table 1). The post-test of the fifth grade experimental group is significantly different from the pre-test of the fifth grade experimental group at the $p \leq .05$ level (see Table 1).

Independent t-test analysis was used to compare pre-test performance between the fourth grade groups on the *4Sight Pennsylvania Benchmark Reading Assessments* and post-test performance between the fourth grade groups on the *4Sight Pennsylvania Benchmark Reading Assessments* at the $p=.05$ level of significance. This analysis was performed on the pre-test performance of the fourth grade control group and the fourth grade experimental group as well as the post-test performance of the fourth grade control group and the fourth grade experimental group. The mean of the pre-test and post-test outcomes, the calculated t-test result, and the degrees of freedom from the sample were calculated in this analysis (see Table 2).

Table 2.

Independent t-test analysis of the 4Sight Pennsylvania Benchmark Reading Assessments-Grade 4

Grade and test interval	4Sight Assessment		<i>t</i>	<i>df</i>
	Control <i>M</i>	Experimental <i>M</i>		
4 ^a				
Pretest	19.85	20.15	0.23	50
Posttest	21.81	22.73	0.71	50

Note. ^a*n* = 26 for each group.

As shown in Table 2, there is no significant difference between the pre-test performance of the fourth grade control group and the fourth grade experimental group at the $p \leq .05$ level. There is no significant difference between the post-test performance of the fourth grade control group and the fourth grade experimental group at the $p \leq .05$ level.

Independent t-test analysis was used to compare pre-test performance between the fifth grade groups on the *4Sight Pennsylvania Benchmark Reading Assessments* and post-test performance between the fifth grade groups on the *4Sight Pennsylvania Benchmark Reading Assessments* at the $p=.05$ level of significance. This analysis was performed on the pre-test performance of the fifth grade control group and the fifth grade experimental group as well as the post-test performance of the fifth grade control group and the fifth grade experimental group. The mean of the pre-test and post-test outcomes, the calculated t-test result, and the degrees of freedom from the sample were calculated in this analysis (see Table 3).

Table 3.

*Independent t-test analysis of the 4Sight Pennsylvania Benchmark Reading Assessments-
Grade 5*

Grade and test interval	4Sight Assessment		<i>t</i>	<i>df</i>
	Control <i>M</i>	Experimental <i>M</i>		
5 ^a				
Pretest	21.03	21.82	0.83	64
Posttest	19.79	23.42	4.12*	64

Note. ^a*n* = 33 for each group.

*At $p \leq .05$, *t* critical two-tail = 2.00.

As shown in Table 3, there is no significant difference between the pre-test performance of the fifth grade control group and the fifth grade experimental group at the $p \leq .05$ level. The post-test performance of the fifth grade experimental group is significantly different from the post-test performance of the fifth grade control group at the $p \leq .05$ level. The post-test performance of the fifth grade experimental group is statistically higher than the post-test performance of the fifth grade control group.

Results of the DIBELS Oral Reading Fluency Benchmarks

A paired t-test analysis was used to determine pre-test and post-test differences on the *DIBELS Oral Reading Fluency Benchmarks* in each group at the $p=.05$ level of significance. This analysis was performed on pre-test and post-test outcomes of the fourth grade experimental group, the fourth grade control group, the fifth grade experimental

group, and the fifth grade control group. The mean of the pre-test and post-test outcomes, the calculated t-test result, and the degrees of freedom from the sample were calculated in this analysis (see Table 4).

Table 4.

Paired t-test analysis of the DIBELS Oral Reading Fluency Benchmarks

Grade and group	DIBELS Assessment		<i>t</i>	<i>df</i>
	Pretest <i>M</i>	Posttest <i>M</i>		
4 ^a				
Control	122.88	114.31	2.17*	25
Experimental	113.08	107.85	1.54	25
5 ^b				
Control	132.42	122.45	1.63	32
Experimental	124.76	123.03	0.71	32

Note. ^a*n* = 26 for each group. ^b*n* = 33 for each group.

*At $p \leq .05$, *t* critical two-tail = 2.06.

As shown in Table 4, the pre-test of the fourth grade control group is significantly different from the post-test of the fourth grade control group at $p \leq .05$ level. The pre-test of the fourth grade control group is statistically higher than the post-test of the fourth grade control group. There is no significant difference between the pre-test and the post-test of the fourth grade experimental group at the $p \leq .05$ level. In fifth grade, there is no

significant difference between the pre-test and the post-test of the control group at the $p \leq .05$ level (see Table 4). There is no significant difference between the pre-test and the post-test of the experimental group at the $p \leq .05$ level (see Table 4).

Independent t-test analysis was used to compare pre-test performance between the fourth grade groups on the *DIBELS Oral Reading Fluency Benchmarks* and post-test performance between the fourth grade groups on the *DIBELS Oral Reading Fluency Benchmarks* at the $p=.05$ level of significance. This analysis was performed on the pre-test performance of the fourth grade control group and the fourth grade experimental group as well as the post-test performance of the fourth grade control group and the fourth grade experimental group. The mean of the pre-test and post-test outcomes, the calculated t-test result, and the degrees of freedom from the sample were calculated in this analysis (see Table 5).

Table 5.

*Independent t-test analysis of the DIBELS Oral Reading Fluency Benchmarks-
Grade 4*

Grade and test interval	DIBELS Assessment		<i>t</i>	<i>df</i>
	Control <i>M</i>	Experimental <i>M</i>		
4 ^a				
Pretest	122.88	113.08	1.04	50
Posttest	114.31	107.85	0.81	50

Note. ^a*n* = 26 for each group.

As shown in Table 5, there is no significant difference between the pre-test performance of the fourth grade control group and the fourth grade experimental group at the $p \leq .05$ level. There is no significant difference between the post-test performance of the fourth grade control group and the fourth grade experimental group at the $p \leq .05$ level.

Independent t-test analysis was used to compare pre-test performance between the fifth grade groups on the *DIBELS Oral Reading Fluency Benchmarks* and post-test performance between the fifth grade groups on the *DIBELS Oral Reading Fluency Benchmarks* at the $p=.05$ level of significance. This analysis was performed on the pre-test performance of the fifth grade control group and the fifth grade experimental group as well as the post-test performance of the fifth grade control group and the fifth grade experimental group. The mean of the pre-test and post-test outcomes, the calculated t-test result, and the degrees of freedom from the sample were calculated in this analysis (see Table 6).

Table 6.

*Independent t-test analysis of the DIBELS Oral Reading Fluency Benchmarks-
Grade 5*

Grade and test interval	DIBELS Assessment		<i>t</i>	<i>df</i>
	Control <i>M</i>	Experimental <i>M</i>		
5 ^a				
Pretest	132.42	124.76	1.05	64
Posttest	122.45	123.03	0.07	64

Note. ^a*n* = 33 for each group.

As shown in Table 6, there is no significant difference between the pre-test performance of the fifth grade control group and the fifth grade experimental group at the $p \leq .05$ level. There is no significant difference between the post-test performance of the fifth grade control group and the fifth grade experimental group at the $p \leq .05$ level.

Results of QuickReads Repeated Reading Charts

A line graph was used for descriptive quantitative analysis of the variations in the median oral reading rates of the experimental group's self-recorded word per minute (WPM) rates for *QuickReads* with repeated readings. A median word per minute (WPM) score from the scores in the three instructional days each week was determined in the experimental group for nine instructional weeks through statistical analysis. A cluster sampling of five instructional weeks was captured from the pre-established experimental

groups at the fourth and fifth grade levels. A line graph was generated from the cluster sampling of the median oral reading rates of the experimental group's self-recorded word per minute (WPM) rates for *QuickReads* with repeated readings. These median oral reading rates include statistical variations due to student absenteeism and potential inaccuracies in the students' self-recorded word per minute (WPM) rates.

In the median oral reading rates of the fourth grade experimental group for *QuickReads* with repeated readings, there is a linear decrease in the median words per minute (WPM) score after the second instructional week sampled. This linear decrease applied to a statistically significant number of participants in the experimental group population at the fourth grade level (see *Figure 1*).

In the median oral reading rates of the fifth grade experimental group for *QuickReads* with repeated readings, there is a linear decrease in the median words per minute (WPM) score after the first and third instructional weeks sampled. These linear decreases applied to a statistically significant number of participants in the experimental group population at the fifth grade level (see *Figure 2*).

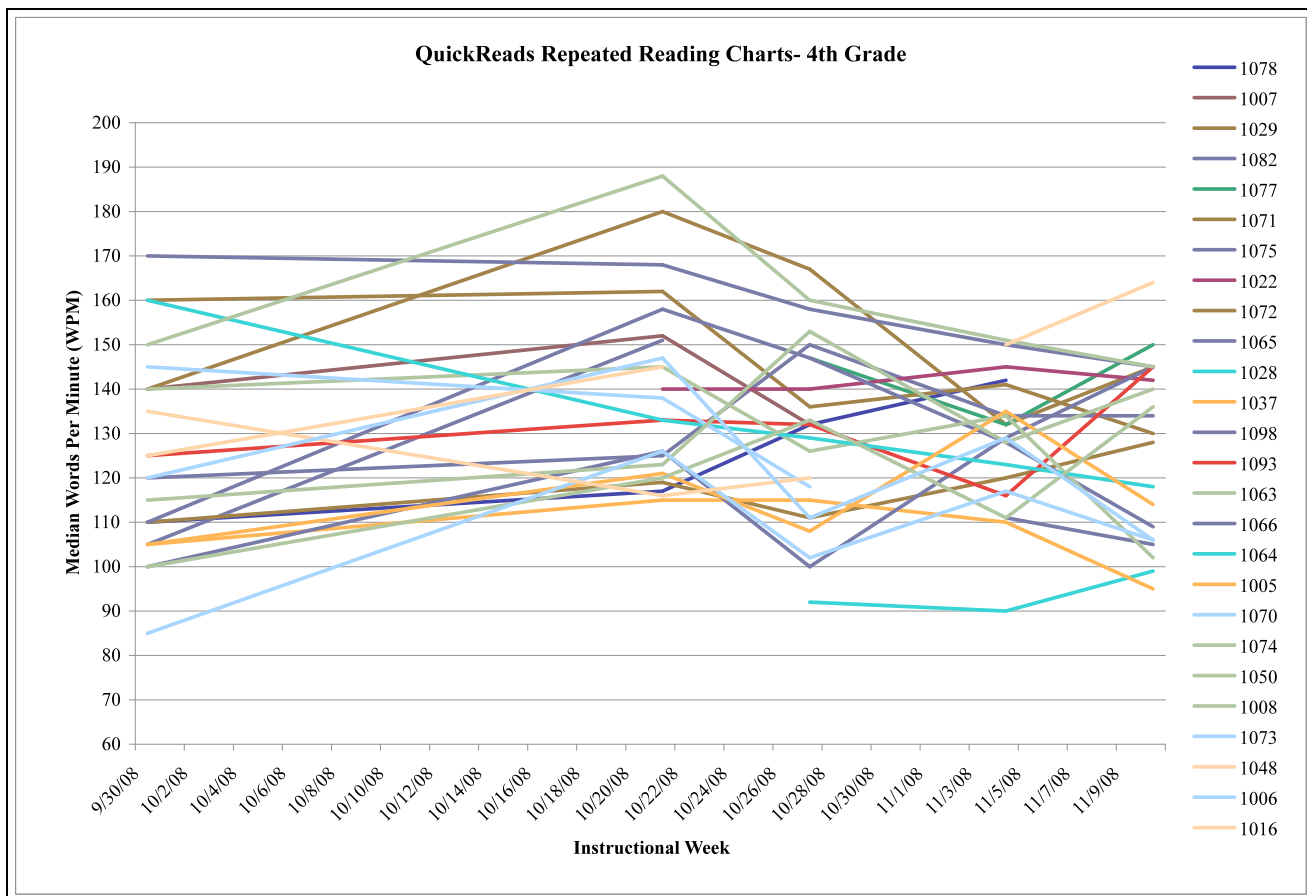


Figure 1. The *QuickReads* repeated reading charts for the fourth grade experimental group denoting a cluster sampling of five median word per minute scores.

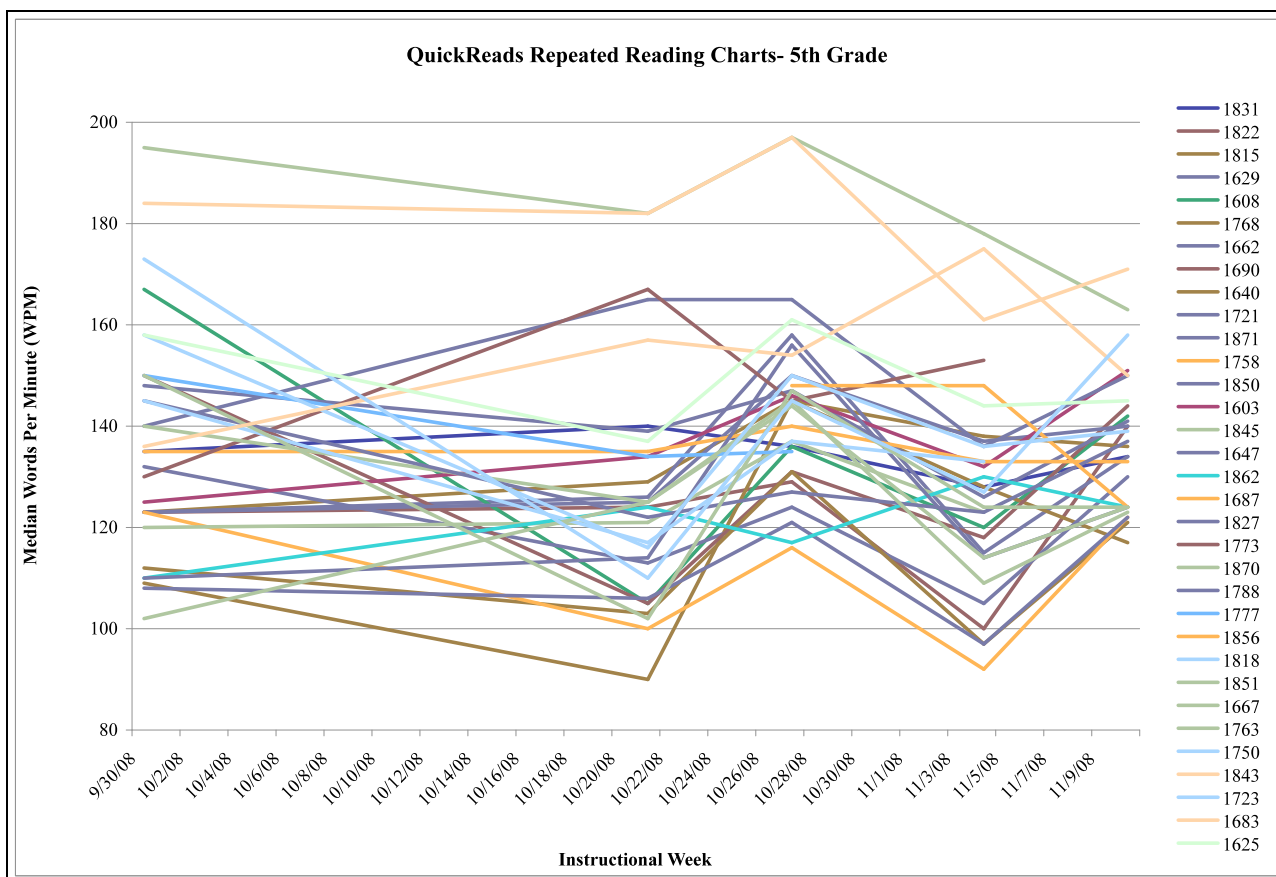


Figure 2. The *QuickReads* repeated reading charts for the fifth grade experimental group denoting a cluster sampling of five median word per minute scores.

Conclusion

This research study examined the difference between an experimental group and a control group in standardized reading achievement. The difference was measured by the standardized reading assessments of the *4Sight Pennsylvania Benchmark Reading Assessments* and the *DIBELS Oral Reading Fluency Benchmark* to determine the effect of systematic oral reading fluency instruction with repeated readings.

Using paired and independent t-test analyses of the *4Sight Pennsylvania Benchmark Reading Assessments*, statistically significant differences were found in both the control and the experimental groups at the fourth and fifth grade levels. Using paired t-test analyses of the *DIBELS Oral Reading Fluency Benchmarks*, the pre-test performance of the fourth grade control group was significantly different from the post-test performance of the fourth grade control group. No other statistically significant differences were found on the *DIBELS Oral Reading Fluency Benchmarks* in further paired and independent t-test analyses calculated in both the control and the experimental groups at the fourth and fifth grade levels. Using the descriptive quantitative analysis for variations in the median oral reading rates of the experimental group's self-record word per minute (WPM) rates for *QuickReads* with repeated readings, there were linear decreases in the median words per minute (WPM) scores at clustered sampling intervals in the experimental groups at the fourth and fifth grade levels.

CHAPTER 5

Discussion and Conclusions

Introduction

The discussion and conclusions will analyze the research problem in relation to the research study. Hypothetical conclusions will be drawn for the research of this study and for the field of education in reading as a result of this study. Implications for future research in the areas of systematic oral reading fluency instruction with repeated readings and reading achievement measures will be discussed.

Research Problem

This study examined the difference between an experimental group and a control group in standardized reading achievement. This difference was measured by standardized reading assessments to determine the effect of systematic oral reading fluency instruction with repeated readings. This study examined whether a difference existed between the reading achievement scores of the experimental group and the reading achievement scores of the control group. This study included students in fourth and fifth grades who attend two elementary schools within one northwestern

Pennsylvania school district. The study incorporated grade level text passages from a commercially published oral reading fluency instructional program (*QuickReads*) as the treatment for this study on systematic oral reading fluency instruction with repeated readings (Hiebert, 2003). The treatment was conducted during the core reading program with approximately ten to fifteen minutes of allotted instructional time daily. This instruction occurred over a three-day period within each week throughout the duration of the study.

The duration of this study was approximately three calendar months and included two nine-week academic grading periods. The two variables of interest were measured through standardized and curriculum-based measurements. The *4Sight Pennsylvania Benchmark Reading Assessments*, published by the Success for All Foundation, measured the variable of standardized reading assessment scores (Success for All Foundation, 2008). The *Dynamic Indicators of Early Literacy Skills (DIBELS) Oral Reading Fluency Benchmark* assessments, published by the University of Oregon Center on Teaching and Learning, measured the variable of oral reading fluency rate (University of Oregon Center on Teaching and Learning, n.d.). This study used a quasi-experimental research design. The quantitative results of this study were analyzed through paired and independent t-test analyses. The descriptive quantitative results of the median words per minute scores from the experimental group were analyzed for variations in the oral reading fluency rate across a cluster sampling of five instructional weeks.

Hypothetical Conclusions

In reviewing the conclusions of this research study, it is important to note that the researcher strived to adhere to all procedures and guidelines set forth with the experimental group and the control group throughout the duration of the study. As in any research study, limitations and threats to validity in the outcomes are always present. These conclusions are drawn from the quantitative results of this particular study and the researcher stresses caution in generalizing or applying these conclusions to other educational settings or research.

Conclusions for the Research

This research study examined the differences between an experimental group and a control group on the standardized reading achievement measures of the *4Sight Pennsylvania Benchmark Reading Assessments* and the *DIBELS Oral Reading Fluency Benchmark* assessments. The differences determined the effect of the systematic oral reading fluency instruction of *QuickReads* with repeated readings. The results of this study demonstrated different outcomes on the different measures at the fourth and fifth grade levels.

The *4Sight Pennsylvania Benchmark Reading Assessments* provided useful quantitative data in the effect of the systematic oral reading fluency instruction on standardized reading achievement outcomes. At the fourth grade level, significant differences were found in the performance outcomes on the post-tests of the *4Sight Pennsylvania Benchmark Reading Assessments* in both the experimental group and the control group. Both groups had a mean test score increase from the pre-test to the post-

test on the *4Sight Pennsylvania Benchmark Reading Assessments*. It can be concluded that the treatment of the systematic oral reading fluency instruction of *QuickReads* with repeated readings in the experimental group did not solely contribute to the variation of standardized reading achievement outcomes at this grade level. Within the control group of the study, factors such as instructional lessons or additional reading interventions as prescribed in the core reading program could have contributed to the post-test's mean score increase. There was insufficient data to conclude whether or not the experimental group's treatment of systematic oral reading fluency instruction was responsible for the post-test's mean score increase within the experimental group.

At the fifth grade level, significant differences were found in the performance outcomes on the post-tests of the *4Sight Pennsylvania Benchmark Reading Assessments* in the experimental group in relation to the control group. The experimental group had a mean test score increase from the pre-test to the post-test on the *4Sight Pennsylvania Benchmark Reading Assessments*. It can be concluded that the treatment of the systematic oral reading fluency instruction of *QuickReads* with repeated readings in the experimental group contributed to the variation of standardized reading achievement outcomes at this grade level. Factors such as instructional lessons or additional reading interventions beyond the treatment protocol and as prescribed in the core reading program could have also effected the post-test's mean score increase in the experimental group. It is important to note that these factors were also present in the control group and there was no significant mean test score increase from the pre-test to the post-test on the *4Sight Pennsylvania Benchmark Reading Assessments*.

The *DIBELS Oral Reading Fluency Benchmark* assessments did not provide sufficient data on the effect that the systematic oral reading fluency instruction of *QuickReads* with repeated readings had on standardized reading achievement outcomes. In the experimental group and the control group at the fourth and fifth grade levels, there were decreases in the mean performance outcomes of the post-tests of the *DIBELS Oral Reading Fluency Benchmark* assessments. As the *DIBELS Oral Reading Fluency Benchmark* assessments showed a post-test mean score decrease in the experimental group and the control group at the fourth and the fifth grade levels in this study, the *4Sight Pennsylvania Benchmark Reading Assessments* showed a post-test mean score increase in all groups at both of the aforementioned levels. There was also insufficient data to conclude whether or not the experimental group's treatment of the systematic oral reading fluency instruction of *QuickReads* with repeated readings was responsible for the post-test's mean score decrease within the experimental group.

The core reading program within the experimental group also embedded additional fluency instruction in Fountas & Pinnell's (2006) six dimensions of oral reading fluency at the fourth and fifth grade levels. These six dimensions of oral reading fluency are identified as "pausing, phrasing, stress, intonation, rate, and integration" (p.69). These dimensions of oral reading fluency will allow "readers [to] bring all their resources to the fluent processing of texts and these are the same resources that contribute to effective comprehension [within a variety of texts]" (p. 73). This additional fluency instruction encouraged students to not only read with an appropriate rate, but it also encouraged their use of prosody in oral reading. This instruction within the experimental

group may be a factor to the decrease in the mean performance outcomes of the post-tests of the *DIBELS Oral Reading Fluency Benchmark* assessments. This factor is also evidenced in the linear decreases of the line graphs for the median words per minute (WPM) scores at clustered sampling intervals of the experimental groups at the fourth and fifth grade levels.

The *DIBELS Oral Reading Fluency Benchmark* assessments measure only a student's oral reading rate, which is the number of words read correctly during one-minute timings. This assessment does not measure the other components of prosody in fluency, such as phrasing or intonation, which more thoroughly identifies fluent reading. By assessing only a student's ability to read a certain number of words within a one-minute period of time, a narrow and limiting view of fluent, proficient reading is constructed for that student. It is the view of the researcher, as a trained reading specialist, that the *DIBELS Oral Reading Fluency Benchmark* assessments provide a standardized reading achievement measure of one component to oral reading fluency, but it is an incomplete measure of a student's authentic, multifaceted oral reading fluency.

In the descriptive quantitative results of the *QuickReads* repeated reading charts, a linear decrease was found in the median oral reading rates of the experimental group's self-recorded words per minute (WPM) rates for *QuickReads* with repeated readings. These self-recorded words per minute (WPM) rates contained statistical variations due in part to student absenteeism and potential inaccuracies in the students' recording of their word per minute (WPM) rates. These self-recorded words per minute (WPM) rates may also have decreased across instructional time because of the aforementioned additional

fluency instruction in Fountas & Pinnell's (2006) six dimensions of oral reading fluency at the fourth and fifth grade levels within the experimental group. As the students were instructed in the six dimensions in oral reading fluency, they would have naturally applied the components of prosody in fluency to their oral reading passages for *QuickReads* with repeated readings. A more attentive focus to the components of prosody in oral reading fluency would naturally decrease a student's oral reading fluency rate across a variety of texts.

Based on the findings of the reading achievement scores with the two *4Sight Pennsylvania Benchmark Reading Assessments* at the fourth and fifth grade levels, the systematic oral reading fluency instruction of *QuickReads* with repeated readings may increase standardized reading achievement outcome scores for students. These increases were statistically significant in increasing the mean score outcome of the students' performance from the pre-test to the post-test measure. This short research study of nine instructional weeks demonstrates significant findings in the benefits of systematic oral reading fluency instruction with repeated readings for increasing standardized reading achievement outcomes.

Conclusions for the Field of Education in Reading

Reading educators throughout the United States are striving to develop instructional practices and intervention models to benefit readers who are at risk of not achieving grade-level proficiencies. It is the requirement of the federal and state laws, developed in response to the No Child Left Behind Act of 2001, that these practices and models follow research-based and developmentally-appropriate protocols for the grade

level audience serviced. Fluency was identified by the National Reading Panel (2000) to be one of the five major areas for reading instruction in the United States. From the laws to the research, an overwhelming body of divergent individuals and groups are heralding the need for fluency instruction at the elementary school grade levels.

Systematic oral reading fluency instructional programs, such as *QuickReads*, will benefit the reading achievement outcomes of elementary school age students. It will not only develop oral reading rate across instructional time in a variety of text experiences, but it will also potentially increase reading achievement scores on standardized reading assessment measures. Repeated reading opportunities were found to be useful in allowing a student to build continuous exposure to a passage for practice in fluent reading behaviors. A repeated reading treatment protocol followed in this research study in the experimental group resulted in mean score gains at the fourth and fifth grade levels.

As the instructional and assessment practices in reading education change over the years, it is critical to evaluate and modify the tools and the procedures used by educators and the local or state education agencies in assessing reading proficiencies. Many local and state education agencies implement the *DIBELS Oral Reading Fluency Benchmark* assessments as an assessment of reading proficiency. This research study concluded that the *DIBELS Oral Reading Fluency Benchmark* did not provide sufficient data in measuring the effect of the experimental group's treatment in the systematic oral reading fluency instruction of *QuickReads* with repeated readings. This finding is an important consideration not only to this research study, but to the local and state education agencies striving to measure reading achievement through the *DIBELS Oral*

Reading Fluency Benchmark assessments. As in any educational assessment, the goals or outcomes of the educational instruction or treatment must align with the designated purposes of the particular assessment. One assessment measure in reading achievement is consequently just one evaluation of reading proficiency.

Implications for Future Research

In reviewing the median oral reading rates of the *QuickReads* repeated reading charts for the experimental group, further research could be completed in analyzing a student's self-recorded oral reading fluency rate in relation to a student's oral reading fluency rate as measured by an adult evaluator. In this study within the experimental group, the students orally read the *QuickReads* passage to a teacher-designated or self-selected student partner. The student was responsible for self-recording his or her words per minute (WPM) rate during the three instructional days in the treatment protocol. In a future study, the researcher could capture the student's oral reading rate by listening to the student orally read and recording the rate for the student within the experimental group. This recording procedure could ensure a more accurate word per minute (WPM) rate for each passage in addition to a consistent score recording protocol when compared to the student's self-recording of the word per minute (WPM) rates within each passage.

Future research from this study could also be completed in the areas of comprehension with systematic oral reading fluency instruction and how assessed comprehension from the *QuickReads* passages relates to standardized reading achievement outcomes. *QuickReads*, a commercially published, research-based fluency program, also includes comprehension questions with each fluency passage to measure a

student's use of "consistent comprehension strategies" and "critical knowledge" (Hiebert, 2003, p. 3). Another research study could be completed analyzing the changes to explicit or implicit comprehension scores within the *QuickReads* program as part of the systematic oral reading fluency instruction with repeated readings. The comprehension scores could be related to the outcome scores of standardized reading achievement measures.

The short duration of this research study did not allow for the opportunity to measure for longitudinal growth with systematic oral reading fluency instruction with repeated readings and its relationship to standardized reading achievement outcomes. In a future study, systematic oral reading fluency instruction with repeated readings could take place over the course of an academic year and standardized reading achievement could be measured by a local or state education agency's standardized reading achievement test. A pre-test and a post-test measure could be taken to determine if any significant differences occurred. The researcher could also compare this local or state education agency's standardized reading achievement test outcome to outcomes on similar measures by this same homogeneous group.

The *DIBELS Oral Reading Fluency Benchmark* assessments must be implemented in future research studies to further investigate this assessment's relationship to standardized reading achievement test outcomes. If specific outcomes on the *DIBELS Oral Reading Fluency Benchmarks* indicate a risk of failure for attaining grade level reading proficiencies on standardized reading achievement tests, these thresholds for failure could be identified and communicated for use in educational

research and by local education agencies. This correlation should also be clearly defined through a variety of local or state reading achievement measures to construct accurate, consistent validity and reliability.

In 2002, the National Assessment of Educational Progress (NAEP) completed a study of oral reading fluency rates of fourth grade students who participated in the NAEP reading assessment. This study, in its results, found that the certain components of fluency, such as accuracy, rate, and fluency, “had a positive relationship to comprehension- higher fluency ratings were associated with higher average reading scores” (Daane, Campbell, Grigg, Goodman, & Oranje, 2005, p. 37). This study also found the average rates of fourth grade readers in oral reading fluency and correlated these rates into levels of reading proficiency. Further research needs to be completed in the relationship between locally assessed oral reading fluency rates at the fourth grade level and the nationally assessed oral reading fluency rates found in the NAEP’s *Fourth-Grade Students Read Aloud: NAEP 2002 Special Study of Oral Reading* (2005). This study would determine if any differences are present between the oral reading fluency rates determined locally and the oral reading fluency rates determined nationally. This study would also allow the researcher to define levels of reading proficiency for the oral reading rates obtained based on NAEP’s oral reading rate proficiency levels.

The *4Sight Pennsylvania Benchmark Reading Assessments*, published by the Success for All Foundation, has a question style and format in each assessment version mirroring the structure of the Pennsylvania System of School Assessment (PSSA) Tests administered every spring in third through eleventh grades (Success for All Foundation,

2008, p. 18). Further research could be completed on the validity and reliability of the *4Sight Pennsylvania Benchmark Reading Assessments* in predicting student achievement outcomes on the Pennsylvania System of School Assessment (PSSA) Tests. Though the Success for All Foundation provides this statistical information, external and independent research studies to authenticate or negate these findings would be useful in understanding what the *4Sight Pennsylvania Benchmark Reading Assessments* is measuring for local education agencies and educational researchers. Further correlations will provide more information on the usefulness or design of this assessment instrument.

Conclusion

The systematic oral reading fluency instruction of *QuickReads* with repeated readings demonstrated an increase in the standardized reading achievement outcomes for students at the fourth and fifth grade levels. Through additional research, systematic oral reading fluency instructional models with opportunities for repeated readings may be found to be beneficial to standardized reading achievement outcomes not only for students in these grade levels, but for other students developing fluency across the elementary school grades. The outcomes achieved under the research design of this study have quantitatively proven the benefits of systematic oral reading fluency instruction with repeated readings on standardized reading achievement test scores.

In the field of reading education, it has been proven through research that a moderate to strong relationship exists between a student's oral reading fluency and his or her achievement in reading (Roehrig, Petscher, Nettles, Hudson, & Torgesen, 2008; Schilling, Carlisle, Scott, & Zeng, 2007; Spear-Swerling, 2006; Stage & Jacobsen, 2001;

Wood, 2006). It is essential for educators to instruct their students in developing oral reading fluency in the elementary school grade levels as these students learn and grow in the process of reading through a variety of texts. Their reading achievement and success is dependent upon proficient oral reading fluency. As Hudson, Lane, & Pullen (2005) stated, “Reading fluency is one of the defining characteristics of good readers, and a lack of fluency is a common characteristic of poor readers” (p. 702).

As the adequate yearly progress (AYP) goals increase each academic year under the No Child Left Behind Act of 2001, local and state education agencies are striving to provide instructional models or additional interventions in reading for the benefit of every student. These models and interventions are provided with the hope of allowing every student, including such students as those who are economically disadvantaged or identified with special needs, to achieve 100 percent grade-level proficiency by the end of the year 2014. This monumental task will take ingenuity, determination, and leadership from the classroom teachers and the local education agency administrators along with the tireless support from state and national organizations. The student’s home environment will also provide critical practice in the reading skills and strategies needed for grade-level proficiencies. Systematic oral reading fluency instruction with repeated readings has proven itself to be another instructional tool in assisting educators who strive to improve their students’ reading proficiencies towards literacy success.

References

- Abadiano, H. & Turner, J. (2005). Reading fluency: The road to developing efficient and effective readers. *New England Reading Association Journal*, 41(1), 50-56.
- Armbruster, B., Lehr, F., & Osborn, J. (2003). *Put reading first: The research building blocks for teaching children to read: Kindergarten through grade 3*. Washington, D.C.: National Institute for Literacy. (ERIC Document Reproduction Service No. ED458536)
- Baker, S., Smolkowski, K., Katz, R., Fien, H., Seeley, J., Kame'enui, E., et al. (2008). Reading fluency as a predictor of reading proficiency in low-performing, high-poverty schools. *School Psychology Review*, 37(1), 18-37.
- Crawford, L., Tindal, G., & Stieber, S. (2001). Using oral reading rate to predict student performance on statewide achievement tests. *Educational Assessment*, 7(4), 303-323.
- Daane, M., Campbell, J., Grigg, W., Goodman, M., & Oranje, A. (2005). *Fourth-grade students reading aloud: NAEP 2002 special study of oral reading* (NCES Publication No. NCES 2006-469). Washington, DC: U.S. Government Printing Office.
- Deno, S. (1985). Curriculum-based measurement: The emerging alternative. *Exceptional Children*, 52(3), 219-232.
- Foorman, B. (2007). Primary prevention in classroom reading instruction. *Teaching Exceptional Children*, 39(5), 24-30.

- Fountas, I. & Pinnell, G. (2006). *Teaching for comprehending and fluency: Thinking, talking, and writing about reading, K-8*. Portsmouth, NH: Heinemann.
- Fuchs, D. & Fuchs, L. (2006). Introduction to response to intervention: What, why, and how valid is it?. *Reading Research Quarterly, 41*(1), 92-99.
- Fuchs, L., Fuchs, D., Hosp, M., & Jenkins, J. (2001). Oral reading fluency as an indicator of reading competence: A theoretical, empirical, and historical analysis. *Scientific Studies of Reading, 5*(3), 239-256.
- Gertsen, R. & Edomono, J. (2006). RTI (Response to Intervention): Rethinking special education for students with reading difficulties (yet again). *Reading Research Quarterly, 41*(1), 99-108.
- Good, I., Simmons, D., & Kame'enui, E. (2001). The importance and decision-making utility of a continuum of fluency-based indicators of foundational reading skills for third-grade high-stakes outcomes. *Scientific Studies of Reading, 5*(3), 257-288.
- Good, R., Kaminski, R., Moats, L., Laimon, D., Smith, S., & Dill, S. (n.d.). DIBELS: Dynamic indicators of basic early literacy skills, sixth edition. Retrieved June 24, 2008, from Mental Measurements Yearbook database
- Hamilton, C. & Shinn, M. (2003). Characteristics of word callers: An investigation of the accuracy of teachers' judgments of reading comprehension and oral reading skills. *School Psychology Review, 32*(2), 228-241.
- Hasbrouck, J. & Tindal, G. (2006). Oral reading fluency norms: A valuable assessment tool for reading teachers. *The Reading Teacher, 59*(7), 636-644.

- Hiebert, E. (2003). *QuickReads: A research-based fluency program teacher's resource manual*. Parsippany, NJ: Pearson Education, Inc.
- Hintze, J. & Silbergitt, B. (2005). A longitudinal examination of the diagnostic accuracy and predictive validity of R-CBM and high-stakes testing. *School Psychology Review, 34*(3), 372-386.
- Hudson, R., Lane, H., & Pullen, P. (2005). Reading fluency assessment and instruction: What, why, and how?. *The Reading Teacher, 58*(8), 702-714.
- Individual with Disabilities Education Improvement Act of 2004, 20 U.S.C. § 1400.
- Kuhn, M. & Stahl, S. (2003). Fluency: A review of developmental and remedial practices. *Journal of Educational Psychology, 95*(1), 3-21.
- Lee, J., Grigg, W., & Donahue, P. (2007). *The nation's report card: Reading 2007* (NCES Publication No. NCES 2007-496). Washington, DC: U.S. Government Printing Office.
- Martens, B., Eckert, T., Begeny, J., Lewandowski, L., DiGennaro, F., Montarello, S., et al. (2007). Effects of a fluency-building program on the reading performance of low-achieving second and third grade students. *Journal of Behavioral Education, 16*(1), 38-53.
- McGlinchey, M. & Hixson, M. (2004). Using curriculum-based measurement to predict performance on state assessments in reading. *School Psychology Review, 33*(2), 193-203.

National Accessible Reading Assessment Projects. (2006). *Defining reading proficiency for accessible large-scale assessments: Some guiding principles and issues.*

Minneapolis, MN: National Accessible Reading Assessment Projects.

National Assessment Governing Board. (2008). *Reading framework for the 2009 National Assessment of Educational Progress.* Retrieved November 2, 2008, from <http://www.nagb.org/frameworks/reading09.pdf>

National Assessment of Educational Progress. (n.d.). *About the nation's report card.* In *Resources.* Retrieved November 16, 2008, from http://nationsreportcard.gov/about_nrc.asp

National Center for Education Statistics. (2005). The NAEP reading achievement levels by grade. In *The nation's report card- reading.* Retrieved November 9, 2008, from <http://nces.ed.gov/nationsreportcard/reading/achieveall.asp>

National Reading Panel. (2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction. Reports of subgroups.* Bethesda, MD: National Reading Panel. (ERIC Document Reproduction Service No. ED444127)

National Reading Panel. (n.d.). About the National Reading Panel (NRP) Overview. In *About the NRP.* Retrieved September 9, 2008, from http://www.nationalreadingpanel.org/NRPAbout/about_nrp.htm

No Child Left Behind Act of 2001, 20 U.S.C. § 6301 (2002).

Pennsylvania Department of Education. (2008). *Academic achievement report: 2007-2008.* Retrieved August 10, 2008, from <http://paayp.com>

- Pikulski, J. & Chard, D. (2005). Fluency: Bridge between decoding and reading comprehension. *The Reading Teacher*, 58(6), 510-519.
- Pinnell, G., Pikulski, J., Wixson, K., Campbell, J., Gough, P., & Beatty, A. (1995). *Listening to children read aloud: Data from NAEP's integrated reading performance record (IRPR) at grade 4* (NCES Publication No. NCES 1995-726). Washington, DC: U.S. Government Printing Office.
- Rasinski, T. (2002). Speed does matter in reading. *Evidence-based reading instruction: Putting the National Reading Panel Report into practice*. Newark, DE: International Reading Association. (ERIC Document Reproduction Service No. ED470652)
- Rasinski, T. & Padak, N. (2005). Fluency beyond the primary grades: Helping adolescent struggling readers. *Voices from the Middle*, 13(1), 34-41.
- Richards, M. (2002). Be a good detective: Solve the case of oral reading fluency. *Evidence-based reading instruction: Putting the National Reading Panel Report into practice*. Newark, DE: International Reading Association. (ERIC Document Reproduction Service No. ED470652)
- Roehrig, A., Petscher, Y., Nettles, S., Hudson, R., & Torgesen, J. (2008). Accuracy of the DIBELS oral reading fluency measure for predicting third grade reading comprehension outcomes. *Journal of School Psychology*, 46(3), 343-366.
- Samuels, S. (1997). The method of repeated readings. *The Reading Teacher*, 50(5), 376-381.

- Santapau, S. (2001). *The nation's report card: Fourth-grade reading highlights 2000* (NCES Publication No. NCES 2001-513). Washington, DC: U.S. Government Printing Office.
- Schilling, S., Carlisle, J., Scott, S., & Zeng, J. (2007). Are fluency measures accurate predictors of reading achievement?. *Elementary School Journal, 107*(5), 429-448.
- Shinn, M. & Good III, R. (1992). Curriculum-based measurement of oral reading fluency: A confirmatory analysis of its relation to reading. *School Psychology Review, 21*(3), 1-21. Retrieved June 11, 2008, from Academic Search Complete database
- Siberglitt, B. & Hintze, J. (2005). Formative assessment using CBM-R scores to track progress toward success on state-mandated achievement tests: A comparison of methods. *Journal of Psychoeducational Assessment, 23*(4), 304-325.
- Sibley, D., Biwer, D., & Hesch, A. (2001). *Establishing curriculum-based measurement oral reading fluency performance standards to predict success on local and state tests of reading achievement*. Washington, D.C.: National Association of School Psychologists. (ERIC Document Reproduction Service No. ED453527)
- Simmons, D. & Kame'enui, E. (2003). *A consumer's guide to evaluating a core reading program grades K-3: A critical elements analysis*. Eugene: University of Oregon College of Education, Institute for the Development of Educational Achievement. Retrieved September 28, 2008, from Scholastic's Funding Connection Website: http://www.scholasticsoftware.com/administrator/funding/fundingconnection/pdf/GR_Nonfiction_Kameenui.pdf

- Spear-Swerling, L. (2006). Children's reading comprehension and oral reading fluency in easy text. *Reading & Writing, 19*(2), 199-220.
- Stage, S. & Jacobsen, M. (2001). Predicting student success on a state-mandated performance-based assessment using oral reading fluency. *School Psychology Review, 30*(3), 407-419.
- Success for All Foundation. (2008). *4Sight reading and math benchmarks 2007-2008 technical report for Pennsylvania*. Baltimore, MD: Success for All Foundation.
- Therrien, W. (2004). Fluency and comprehension gains as a result of repeated reading. *Remedial & Special Education, 25*(4), 252-261.
- Therrien, W. & Kubina, Jr., R. (2007). The importance of context in repeated reading. *Reading Improvement, 44*(4), 179-188.
- United States Department of Education. (2007). *No Child Left Behind's 5th anniversary: Keeping promises and achieving results*. Retrieved November 18, 2008, from <http://www.ed.gov/nclb/overview/importance/nclb5anniversary.html>
- United States Department of Education. (2008). *Stronger accountability- No Child Left Behind: Adequate yearly progress (faq)*. Retrieved October 5, 2008, from http://answers.ed.gov/cgi-bin/education.cfg/php/enduser/std_adp.php?p_faqid=6&
- University of Oregon Center on Teaching and Learning. (n.d.). *Official DIBELS home page*. Retrieved June 24, 2008, from <http://dibels.uoregon.edu>

- Vaughn, S. & Fuchs, L. (2003). Redefining learning disabilities as inadequate response to instruction: The promise and potential problems. *Learning Disabilities Research & Practice, 18*(3), 137-146.
- Wood, D. (2006). Modeling the relationship between oral reading fluency and performance on a statewide reading test. *Educational Assessment, 11*(2), 85-104.

Appendix A

Sample Cover Page of the *4Sight Pennsylvania Benchmark Reading Assessments*

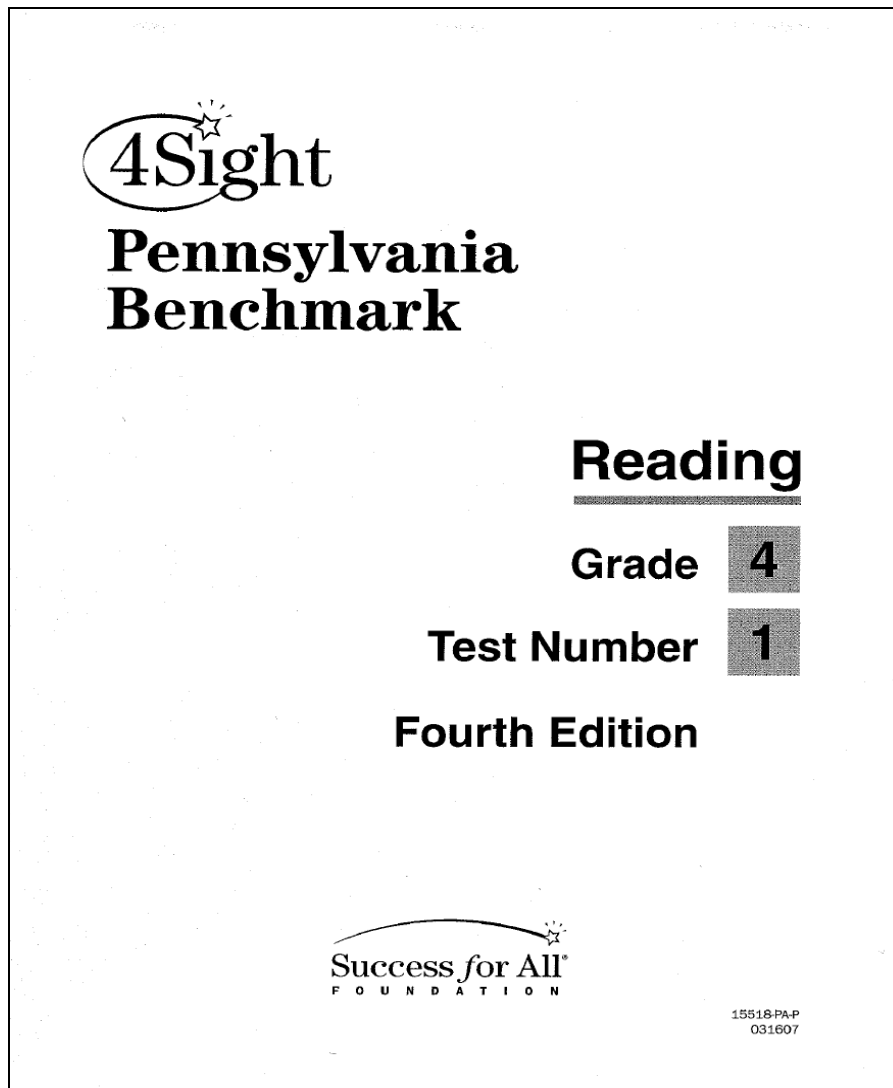


Figure 1A. From the *4Sight Pennsylvania Benchmark Reading Assessment- Grade 4, Test Number 1* (cover page), by Success for All Foundation, 2008, Baltimore, MD: Success for All Foundation. Copyright 2008 by Success for All Foundation. Reprinted with permission.

Appendix B

Sample Cover Page of the *DIBELS Oral Reading Fluency Benchmark Assessment*

DIBELS® Oral Reading Fluency
Short Form Directions

Make sure you have reviewed the long form of the directions in the *DIBELS Administration and Scoring Guide* and have them available. Say these specific directions to the student:

Please read this (point) **out loud. If you get stuck, I will tell you the word so you can keep reading. When I say “Stop,” I may ask you to tell me about what you read, so do your best reading. Start here** (point to the first word of the passage). **Begin.**

Start your stopwatch when the student says the first word of the passage.

At the end of **1 minute**, place a bracket (]) after the last word provided by the student, stop and reset the stopwatch, and say, **“Stop.”** (remove the passage)

If the student reads more than 10 words correct, proceed with the retell part. Say,

Please tell me all about what you just read. Try to tell me everything you can. Begin. Start your stopwatch after you say “Begin.”

The first time the student does not say anything for 3 seconds, say, **“Try to tell me everything you can.”** This prompt can be used only once.

If the student does not say anything or gets off track for 5 seconds, circle the total number of words in the student’s retell and say, **“Stop.”**


At the end of **1 minute**, circle the total number of words in the student’s retell and say, **“Stop.”**

Reminder

Discontinue rule—No words read correctly in the first row.

Hesitation rule—3 seconds—Tell the student the word. If necessary, indicate for student to continue with next word.

Do not give passages #2 and #3 and do not administer retell if student reads fewer than 10 words correctly.



Dynamic Indicators of Basic Early Literacy Skills™ 6th Ed.

Name: _____ Teacher: _____

School: _____ District: _____

	Benchmark 1 Beginning/Fall	Benchmark 2 Middle/Winter	Benchmark 3 End/Spring
Date			
DIBELS® Oral Reading Fluency	(Median score)	(Median score)	(Median score)
Retell Fluency (Optional)	(Median score)	(Median score)	(Median score)

**Fourth Grade Scoring Booklet
Benchmark Assessment**

Good, R. H., & Kaminski, R. A. (Eds.). (2007). *Dynamic Indicators of Basic Early Literacy Skills* (6th ed.). Eugene, OR: Institute for the Development of Educational Achievement. Available: <http://dibels.uoregon.edu/>

Revised 06/11/07

Figure 1B. From the DIBELS Oral Reading Fluency Benchmark Assessment-Grade 4 (cover page), by Institute for the Development of Educational Achievement, 2007. Available: <http://dibels.uoregon.edu>. Copyright 2008 by Dynamic Measurement Group. Reprinted with permission.

Appendix C

Sample Cover Page of the *DIBELS Oral Reading Fluency Benchmark Assessment*

DIBELS® Oral Reading Fluency Short Form Directions			
<p>Make sure you have reviewed the long form of the directions in the <i>DIBELS Administration and Scoring Guide</i> and have them available. Say these specific directions to the student:</p> <p>Please read this (point) out loud. If you get stuck, I will tell you the word so you can keep reading. When I say "Stop," I may ask you to tell me about what you read, so do your best reading. Start here (point to the first word of the passage). Begin.</p> <p>Start your stopwatch when the student says the first word of the passage.</p> <p>At the end of 1 minute, place a bracket (]) after the last word provided by the student, stop and reset the stopwatch, and say, "Stop." (remove the passage)</p> <p>If the student reads more than 10 words correct, proceed with the retell part. Say,</p> <p>Please tell me all about what you just read. Try to tell me everything you can. Begin. Start your stopwatch after you say "Begin."</p> <p>The first time the student does not say anything for 3 seconds, say, "Try to tell me everything you can." This prompt can be used only once.</p> <p>If the student does not say anything or gets off track for 5 seconds, circle the total number of words in the student's retell and say, "Stop."</p> <p>At the end of 1 minute, circle the total number of words in the student's retell and say, "Stop."</p>			
<p>Discontinue rule—No words read correctly in the first row.</p> <p>Hesitation rule—3 seconds—Tell the student the word. If necessary, indicate for student to continue with next word.</p> <p>Do not give passages #2 and #3 and do not administer retell if student reads fewer than 10 words correctly.</p>			
<p>Reminder</p>			
<p>Dynamic Indicators of Basic Early Literacy Skills™ 6th Ed.</p> <p>Name: _____ Teacher: _____</p> <p>School: _____ District: _____</p>			
	Benchmark 1 Beginning/Fall	Benchmark 2 Middle/Winter	Benchmark 3 End/Spring
Date			
DIBELS® Oral Reading Fluency	(Median score)	(Median score)	(Median score)
Retell Fluency (Optional)	(Median score)	(Median score)	(Median score)
<p>Fifth Grade Scoring Booklet Benchmark Assessment</p>			
<p>Good, R. H., & Kaminski, R. A. (Eds.). (2007). <i>Dynamic Indicators of Basic Early Literacy Skills</i> (6th ed.). Eugene, OR: Institute for the Development of Educational Achievement. Available: http://dibels.uoregon.edu/</p>			
<p>Revised 06/11/07</p>			

Figure 1C. From the *DIBELS Oral Reading Fluency Benchmark Assessment-Grade 5* (cover page), by Institute for the Development of Educational Achievement, 2007. Available: <http://dibels.uoregon.edu>. Copyright 2008 by Dynamic Measurement Group. Reprinted with permission.

Appendix D

4Sight Pennsylvania Benchmark Reading Assessments-

Grade 4 Control Group Pre-Test and Post-Test Score Outcomes

ID	4Sight 1	4Sight 2
125	23	22
105	18	19
111	20	25
122	18	23
118	23	26
140	15	13
117	19	25
135	10	19
148	28	26
108	21	21
150	26	21
120	24	27
100	22	25
137	23	26
144	24	25
107	22	24
109	21	23
146	24	24
106	13	15
136	22	23
147	4	11
115	15	14
123	24	25
101	22	25
102	26	25
139	9	15

Appendix E

4Sight Pennsylvania Benchmark Reading Assessments-

Grade 4 Experimental Group Pre-Test and Post-Test Score Outcomes

ID	4Sight 1	4Sight 2
172	20	22
166	25	26
178	19	27
171	24	26
168	19	27
191	21	26
197	24	27
160	20	26
189	20	11
150	16	27
152	14	27
170	17	20
179	25	16
188	24	11
193	23	25
175	23	27
195	19	25
156	15	23
151	19	25
154	24	20
165	17	22
162	23	22
183	14	17
186	17	21
184	18	25
164	24	20

Appendix F

4Sight Pennsylvania Benchmark Reading Assessments-

Grade 4 Paired T-Test Analysis of Control Group

	<i>4Sight 2</i>	<i>4Sight 1</i>
Mean	21.80769231	19.84615
Variance	21.20153846	33.17538
Observations	26	26
Pearson Correlation	0.83741714	
Hypothesized Mean Difference	0	
df	25	
t Stat	3.169475339	
P(T<=t) one-tail	0.002002094	
t Critical one-tail	1.708140745	
P(T<=t) two-tail	0.004004189	
t Critical two-tail	2.059538536	

4Sight Pennsylvania Benchmark Reading Assessments-

Grade 4 Paired T-Test Analysis of Experimental Group

	<i>4Sight 2</i>	<i>4Sight 1</i>
Mean	22.73076923	20.15385
Variance	22.12461538	12.21538
Observations	26	26
Pearson Correlation	-0.114170798	
Hypothesized Mean Difference	0	
df	25	
t Stat	2.12892674	
P(T<=t) one-tail	0.021646261	
t Critical one-tail	1.708140745	
P(T<=t) two-tail	0.043292522	
t Critical two-tail	2.059538536	

Appendix G

4Sight Pennsylvania Benchmark Reading Assessments-

Grade 4 Independent T-Test Analysis of Pre-Test Outcomes

	<i>Experimental</i>	<i>Control</i>
Mean	20.15384615	19.84615385
Variance	12.21538462	33.17538462
Observations	26	26
Hypothesized Mean Difference	0	
df	41	
t Stat	0.232873216	
P(T<=t) one-tail	0.408509259	
t Critical one-tail	1.682878003	
P(T<=t) two-tail	0.817018519	
t Critical two-tail	2.019540948	

4Sight Pennsylvania Benchmark Reading Assessments-

Grade 4 Independent T-Test Analysis of Post-Test Outcomes

	<i>Experimental</i>	<i>Control</i>
Mean	22.73076923	21.80769231
Variance	22.12461538	21.20153846
Observations	26	26
Hypothesized Mean Difference	0	
df	50	
t Stat	0.715071549	
P(T<=t) one-tail	0.238945302	
t Critical one-tail	1.675905026	
P(T<=t) two-tail	0.477890603	
t Critical two-tail	2.008559072	

Appendix H

4Sight Pennsylvania Benchmark Reading Assessments-

Grade 5 Control Group Pre-Test and Post-Test Score Outcomes

ID	4Sight 1	4Sight 2
144	21	20
114	19	13
148	19	19
147	23	27
132	27	24
150	15	11
110	24	22
149	14	18
139	19	21
135	27	22
112	18	12
109	21	23
106	23	22
111	24	22
124	27	24
100	19	18
123	16	16
118	26	21
141	19	20
102	25	22
104	23	26
105	22	21
129	19	18
145	25	23
115	20	22
142	13	18
146	18	17
133	19	15
108	23	18
136	22	16
125	26	18
143	14	23
113	24	21

Appendix I

4Sight Pennsylvania Benchmark Reading Assessments-

Grade 5 Experimental Group Pre-Test and Post-Test Score Outcomes

ID	4Sight 1	4Sight 2
185	18	18
169	20	25
156	26	26
197	14	15
173	15	20
180	27	29
181	26	24
154	19	19
160	24	25
153	24	27
151	15	14
193	26	24
158	20	21
170	22	25
161	23	26
187	24	25
198	22	26
200	25	24
159	23	25
174	22	23
195	23	27
164	24	25
189	22	23
191	24	26
179	18	20
166	20	22
176	24	22
163	14	21
165	24	24
190	29	26
172	21	25
192	20	26
155	22	25

Appendix J

4Sight Pennsylvania Benchmark Reading Assessments-

Grade 5 Paired T-Test Analysis of Control Group

	<i>4Sight 2</i>	<i>4Sight 1</i>
Mean	19.78787879	21.0303
Variance	14.23484848	15.7803
Observations	33	33
Pearson Correlation	0.540469554	
Hypothesized Mean Difference	0	
df	32	
t Stat	-1.920264126	
P(T<=t) one-tail	0.031887514	
t Critical one-tail	1.693888703	
P(T<=t) two-tail	0.063775028	
t Critical two-tail	2.036933334	

4Sight Pennsylvania Benchmark Reading Assessments-

Grade 5 Paired T-Test Analysis of Experimental Group

	<i>4Sight 2</i>	<i>4Sight 1</i>
Mean	23.42424242	21.81818
Variance	11.43939394	13.90341
Observations	33	33
Pearson Correlation	0.776941594	
Hypothesized Mean Difference	0	
df	32	
t Stat	3.848824183	
P(T<=t) one-tail	0.00026726	
t Critical one-tail	1.693888703	
P(T<=t) two-tail	0.000534519	
t Critical two-tail	2.036933334	

Appendix K

4Sight Pennsylvania Benchmark Reading Assessments-

Grade 5 Independent T-Test Analysis of Pre-Test Outcomes

	<i>Experimental</i>	<i>Control</i>
Mean	21.81818182	21.03030303
Variance	13.90340909	15.78030303
Observations	33	33
Hypothesized Mean Difference	0	
df	64	
t Stat	0.830724985	
P(T<=t) one-tail	0.204608707	
t Critical one-tail	1.669013026	
P(T<=t) two-tail	0.409217415	
t Critical two-tail	1.997729633	

4Sight Pennsylvania Benchmark Reading Assessments-

Grade 5 Independent T-Test Analysis of Post-Test Outcomes

	<i>Experimental</i>	<i>Control</i>
Mean	23.42424242	19.78787879
Variance	11.43939394	14.23484848
Observations	33	33
Hypothesized Mean Difference	0	
df	63	
t Stat	4.122640423	
P(T<=t) one-tail	5.57695E-05	
t Critical one-tail	1.669402222	
P(T<=t) two-tail	0.000111539	
t Critical two-tail	1.998340522	

Appendix L

DIBELS Oral Reading Fluency Benchmark Assessments-

Grade 4 Control Group Pre-Test and Post-Test Score Outcomes

ID	DIBELS Pretest	DIBELS Posttest
125	141	130
105	96	106
111	171	156
122	88	75
118	83	74
140	106	157
117	114	115
135	84	72
148	135	126
108	70	46
150	105	114
120	88	76
100	134	130
137	141	140
144	123	83
107	112	121
109	225	195
146	140	112
106	119	102
136	84	108
147	144	137
115	94	79
123	182	139
101	142	115
102	110	122
139	164	142

Appendix M

DIBELS Oral Reading Fluency Benchmark Assessments-

Grade 4 Experimental Group Pre-Test and Post-Test Score Outcomes

ID	DIBELS Pretest	DIBELS Posttest
172	96	102
166	167	139
178	119	97
171	94	123
168	157	118
191	173	147
197	106	118
160	122	115
189	109	103
150	94	108
152	59	64
170	84	69
179	100	113
188	112	99
193	147	121
175	117	109
195	142	114
156	77	93
151	107	106
154	101	115
165	96	103
162	178	154
183	59	53
186	106	114
184	89	78
164	129	129

Appendix N

DIBELS Oral Reading Fluency Benchmark Assessments-

Grade 4 Paired T-Test Analysis of Control Group

	<i>DIBELS Posttest</i>	<i>DIBELS Pretest</i>
Mean	114.3076923	122.8846154
Variance	1077.741538	1293.786154
Observations	26	26
Pearson Correlation	0.832460428	
Hypothesized Mean Difference	0	
df	25	
t Stat	-2.171724025	
P(T<=t) one-tail	0.019784373	
t Critical one-tail	1.708140745	
P(T<=t) two-tail	0.039568745	
t Critical two-tail	2.059538536	

DIBELS Oral Reading Fluency Benchmark Assessments-

Grade 4 Paired T-Test Analysis of Experimental Group

	<i>DIBELS Posttest</i>	<i>DIBELS Pretest</i>
Mean	107.8461538	113.0769231
Variance	549.0953846	1014.873846
Observations	26	26
Pearson Correlation	0.847491146	
Hypothesized Mean Difference	0	
df	25	
t Stat	-1.543335508	
P(T<=t) one-tail	0.067657164	
t Critical one-tail	1.708140745	
P(T<=t) two-tail	0.135314327	
t Critical two-tail	2.059538536	

Appendix O

DIBELS Oral Reading Fluency Benchmark Assessments-

Grade 4 Independent T-Test Analysis of Pre-Test Outcomes

	<i>Experimental</i>	<i>Control</i>
Mean	113.0769231	122.8846154
Variance	1014.873846	1293.786154
Observations	26	26
Hypothesized Mean Difference	0	
df	49	
t Stat	-1.040814939	
P(T<=t) one-tail	0.151534949	
t Critical one-tail	1.676550893	
P(T<=t) two-tail	0.303069897	
t Critical two-tail	2.009575199	

DIBELS Oral Reading Fluency Benchmark Assessments-

Grade 4 Independent T-Test Analysis of Post-Test Outcomes

	<i>Experimental</i>	<i>Control</i>
Mean	107.8461538	114.3076923
Variance	549.0953846	1077.741538
Observations	26	26
Hypothesized Mean Difference	0	
df	45	
t Stat	-0.816865581	
P(T<=t) one-tail	0.209154475	
t Critical one-tail	1.679427393	
P(T<=t) two-tail	0.418308949	
t Critical two-tail	2.014103359	

Appendix P

DIBELS Oral Reading Fluency Benchmark Assessments-

Grade 5 Control Group Pre-Test and Post-Test Score Outcomes

ID	DIBELS Pretest	DIBELS Posttest
144	112	137
114	110	76
148	134	136
147	144	171
132	106	125
150	135	128
110	138	128
149	162	193
139	109	108
135	108	98
112	181	167
109	171	167
106	123	117
111	155	178
124	140	96
100	131	118
123	144	143
118	130	171
141	131	67
102	129	173
104	120	64
105	129	101
129	110	155
145	134	177
115	146	83
142	114	69
146	171	137
133	144	142
108	85	68
136	151	87
125	87	98
143	120	83
113	166	80

Appendix Q

DIBELS Oral Reading Fluency Benchmark Assessments-

Grade 5 Experimental Group Pre-Test and Post-Test Score Outcomes

ID	DIBELS Pretest	DIBELS Posttest
185	122	97
169	115	128
156	196	179
197	48	67
173	115	129
180	160	149
181	124	121
154	107	103
160	147	134
153	114	116
151	90	76
193	151	144
158	115	115
170	164	124
161	118	115
187	80	74
198	115	123
200	94	98
159	127	124
174	108	110
195	98	122
164	158	142
189	104	102
191	115	128
179	122	134
166	91	116
176	165	166
163	125	118
165	97	95
190	215	196
172	180	167
192	144	144
155	93	104

Appendix R

DIBELS Oral Reading Fluency Benchmark Assessments-

Grade 5 Paired T-Test Analysis of Control Group

	<i>DIBELS Posttest</i>	<i>DIBELS Pretest</i>
Mean	122.4545455	132.4242424
Variance	1502.255682	538.3768939
Observations	33	33
Pearson Correlation	0.446156898	
Hypothesized Mean Difference	0	
df	32	
t Stat	-1.627613813	
P(T<=t) one-tail	0.056707371	
t Critical one-tail	1.693888703	
P(T<=t) two-tail	0.113414742	
t Critical two-tail	2.036933334	

DIBELS Oral Reading Fluency Benchmark Assessments-

Grade 5 Paired T-Test Analysis of Experimental Group

	<i>DIBELS Posttest</i>	<i>DIBELS Pretest</i>
Mean	123.030303	124.7575758
Variance	811.155303	1209.376894
Observations	33	33
Pearson Correlation	0.920264256	
Hypothesized Mean Difference	0	
df	32	
t Stat	-0.705906035	
P(T<=t) one-tail	0.242677191	
t Critical one-tail	1.693888703	
P(T<=t) two-tail	0.485354382	
t Critical two-tail	2.036933334	

Appendix S

DIBELS Oral Reading Fluency Benchmark Assessments-

Grade 5 Independent T-Test Analysis of Pre-Test Outcomes

	<i>Experimental</i>	<i>Control</i>
Mean	124.7575758	132.4242
Variance	1209.376894	538.3769
Observations	33	33
Hypothesized Mean Difference	0	
df	56	
t Stat	-1.053473039	
P(T<=t) one-tail	0.148324294	
t Critical one-tail	1.672522304	
P(T<=t) two-tail	0.296648589	
t Critical two-tail	2.003240704	

DIBELS Oral Reading Fluency Benchmark Assessments-

Grade 5 Independent T-Test Analysis of Post-Test Outcomes

	<i>Experimental</i>	<i>Control</i>
Mean	123.030303	122.4545455
Variance	811.155303	1502.255682
Observations	33	33
Hypothesized Mean Difference	0	
df	59	
t Stat	0.068765441	
P(T<=t) one-tail	0.472704428	
t Critical one-tail	1.671093033	
P(T<=t) two-tail	0.945408856	
t Critical two-tail	2.000995361	

Appendix T

Repeated Reading Chart

Name: _____ Date: _____

Passage Title: _____

Number of Words Read Correctly in 1 Minute: _____

Words Read Correctly Per Minute (WRCPM)	200			
	195			
	190			
	185			
	180			
	175			
	170			
	165			
	160			
	155			
	150			
	145			
	140			
	135			
	130			
	125			
	120			
	115			
	110			
	105			
	100			
	95			
	90			
	85			
	80			
	75			
	70			
	65			
60				
55				
50				

Number of Passage Readings

Appendix U

Participating Teacher in Experimental Group Information

Thesis Study:

Relationship between Systematic Oral Reading Fluency Instruction and Standardized Reading Achievement Test Scores

Details of the Study

- Approved by building principal, Superintendent of Schools, and Human Subjects Review Board
- Spanning two academic grading periods, including at least two 4Sight assessments
- Study will examine student achievement on the 4Sight Pennsylvania Benchmark assessment and DIBELS Oral Reading Fluency Benchmarks in grades fourth and fifth
 - Students will be given systematic oral reading fluency instruction with QuickReads through repeated readings
 - Look for a relationship in achievement of oral reading fluency (ORF) rate and score on 4Sight
- ANONYMOUS STUDY- looking at raw data numbers overall for group, no individual students with individual data- NO STUDENT NAMES, NO SPECIFIC STUDENT NUMBERS (FERPA requirement/school district- University policy)- when data is collected, it will be coded for anonymity and grouped- ALL CLASSROOMS and SCHOOL NAMES will be ANONYMOUS in nature
- Parental approval- release for minor child participation- children not authorized to participate will be excluded (AERA/FERPA guidelines)
- Study is final component of my M.Ed. in Reading degree (with graduation in December)
- All questions for the study should be referred to the researcher.

Procedures for Study

- Sequential use of the *QuickReads* passages in your appropriate grade level- level D or E
- Following a repeated reading sequence versus *QuickReads* scripting:
 - One passage per three-day interval
 - Day one: identifies focus fluency dimension for the passage, discuss fluency dimension- model behavior/skill, teacher models fluent reading of passage, students pair in differentiated fashion to read aloud passage to another student (teacher will time for one minute intervals twice), and students will record daily fluency rate (ORF rate) on self-maintained chart

- Day two: revisit focus fluency dimension- stress the use of the dimension for “fluent reading”, students pair again in same groupings to read aloud passage (teacher will time for one minute intervals), and students will record daily fluency rate (ORF rate) on self-maintained chart
- Day three: (final reading of passage), revisit focus fluency dimension- stress the use of the dimension for “fluent reading”, students pair again in same groupings to read aloud passage (teacher will time for one minute intervals), students will record daily fluency rate (ORF rate) on self-maintained chart, and collect the chart from students
- Repeat daily sequence with each new passage, stressing a new focus fluency dimension each week (allowing for six weeks of fluency dimension instruction)
- The researcher will model the first instructional sequence of lessons if the participating teacher requests this modeling.
- The researcher will be taking observational surveys of fluency instruction in action every week to document qualitative data for the study.
- Students will be pre/post tested in DIBELS Oral Reading Fluency Benchmark for their appropriate grade level. Fountas & Pinnell’s six dimensions of fluency rubric will also be administered at these testing intervals.
- Fluency data is a progress-monitoring tool recommended in these grade levels.