

The Effect of Research-Based Reading Interventions  
On  
At-Risk, Second Grade Student Ability to Fluently Decode Grade-Level Text

By Hannah Lamontagne Douglass

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

July 2014

Goucher College  
Graduate Programs in Education

## Table of Contents

List of Tables	iii
Abstract	iv
I. Introduction	1
Statement of Problem	1
Hypothesis	2
Operational Definitions	2
II. Review of Literature	3
The Importance of Learning to Read	3
Characteristics of an At-Risk Reader	5
Positive Effects of Building Reading Fluency	6
Supporting “At-Risk” Readers – Phonics Instruction	7
Methods of Supporting At-Risk Readers – Research Based Reading Interventions	9
III. Methods	13
Design	13
Participants	13
Instrument	14
Procedure	15
IV. Results	18
V. Discussion	19
Implications of the Results	19
Theoretical Consequences	19
Threats to Validity	20

Connections to the Literature	21
Implications for Future Research	22
References	24

## **List of Tables**

Table 1: Means and Standard Deviations of Pre and Posttest Measures

18

## ABSTRACT

The purpose of this study was to determine whether or not participation in research-based reading interventions effects at-risk, second grade students' ability to fluently decode grade-level text. The measurement tool was DIBELS: Dynamic Indicators of Basic Early Literacy Skills, Sixth Edition. This study involves the use of a pretest/posttest design to compare data from January of 2014 (before the intervention was administered) to data from May of 20014 (after the intervention was completed). Students participated in a research-based reading intervention, SIPPS-Extension, four times per week for thirty minutes. The hypothesis of this study was supported because the hypothesis predicted that student participation in research-based reading interventions would not affect at-risk, second grade students' ability to fluently decode grade-level text. Statistical results from the dependent *t*-tests showed that there was no significant difference in words read per minute or in reading accuracy with the implementation of the research-based reading intervention. Research in the area of reading fluency and reading interventions should continue given that there was no significant difference between pretest/post-test results.

# **CHAPTER I**

## **INTRODUCTION**

### **Overview**

Many elementary schools utilize the response to intervention (RTI) model when teaching children to read. Through this model, Denton, (2012) explains that children are provided a comprehensive school-wide framework, where at-risk readers are identified and provided with evidence-based and data-informed instruction and intervention, in an effort to prevent them from falling further behind their same-age peers. When students are not successful with the initial instruction of reading skills from their classroom teacher (Tier 1), then they are provided supplemental, research-based intervention instruction (Tier 2 or Tier 3).

Many Tier 2 and Tier 3 research-based reading intervention programs that are used in elementary schools produce isolated results. Students perform well within the small group on the activities and/or assessments that are built into the programs, but they are then unable to apply the skills they have learned to their reading of grade-level text.

Although extensive research has been conducted to ensure that these intervention programs are effective, it has been found by the instructors of these programs in elementary schools that the majority of the students that have participated in these interventions do not make significant, applicable growth at the end of the ten to twenty week implementation period and must then participate in either a different Tier 2 reading intervention, or a more intensive Tier 3 reading intervention (Marston, 2005).

### **Statement of Problem**

The problem this study seeks to answer is whether or not participation in research-based reading interventions effects at-risk, second grade student ability to fluently decode grade-level

text. Through this study, it is hoped that one will be able to gain information about whether or not the implementation of these Tier 2 interventions are in fact effective at teaching students to fluently decode grade level text.

### **Hypothesis**

The null hypothesis of this study is that student participation in research-based reading interventions does not affect at-risk, second grade student ability to fluently decode grade level text.

### **Operational Definitions**

The independent variable is student participation in research-based reading intervention, specifically Systematic Instruction in Phonological Awareness, Phonics, and Sight Words (SIPPS-Extension) and the dependent variables is the students' ability to fluently decode grade-level text.

Operational definitions of the variables are as follows:

**Fluency** is characterized by three elements; rate, accuracy, and prosody.

**Rate** is a student's ability to automatically decode words.

**Accuracy** is related to the student's ability to decode words within text accurately.

**Prosody** is a student's ability to utilize appropriate phrasing and expression while reading.

Students will demonstrate fluent decoding by orally reading grade-level passages at a rate which is comparative to grade-level expectations, on the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) assessment.

## CHAPTER II

### REVIEW OF THE LITERATURE

This literature review explores at-risk readers' ability to decode grade-level text fluently and various strategies and interventions for improving readability. The section one focuses on the importance of learning to read for at-risk students. The review goes on to define what an at-risk reader is, provides characteristics of at-risk readers, and discusses the positive effects of building reading fluency. Section two analyzes teaching methods that can be utilized to support at-risk readers, specifically phonics instruction. Section three investigates different research-based reading interventions that can be used to support at-risk readers, specifically the Response to Intervention model.

#### **The Importance of Learning to Read**

The act of reading is embedded into nearly every daily activity that a human goes about throughout the day. Whether they are deciding what they should order for lunch, trying to determine the best driving route they should take, or watching a television show, reading is required. If children do not master reading at an early age, they will struggle to function in society.

The Encyclopedia of Special Education (2007) explains the four purposes for reading; *developmental reading, studying, functional reading, and recreational reading* (p.1). The first type, *developmental reading*, is the phase where children actively learn to read. In the past, the Bible or published basal readers were often used as print sources to teach children to read. Now, students are taught using various phonics programs embedded in the language arts curriculum. *Developmental reading* was solely taught in the early years of a child's school career. In today's schools, the importance of mastering *developmental reading* is evident, as lessons, classes, and interventions focus on these skills throughout school.

Eventually, *developmental reading* is merged with another purpose for reading- *studying*, in which children apply the process of reading to text where their purpose is gaining meaning. At this point, they begin to actively work to comprehend what an author has written, as Johnson and Keier (2010) explain in their book, *Catching Readers Before they Fall: Supporting Readers Who Struggle*. It is essential that students' reading skills are fully established at this point, or they are forced to put too much emphasis on decoding the text, which then interferes with their true purpose, gaining meaning from expository text. The act of *studying* is most closely linked to schooling, as students utilize text to gain information related to a certain topic. A topic is assigned by an instructor and students must apply their new knowledge to some form of assessment, such as a report or formative assessment.

Somewhat dissimilar from *developmental reading* and *studying* is *functional reading* where individuals read to meet their personal needs. Reading proficiency is essential in order for individuals to fulfil these needs as they attempt to complete job applications, read road signs, or follow a recipe - all frequent day-to-day activities.

The last purpose of reading, *recreational*, is when individuals read for pleasure. This is often encouraged with children at young ages, as studies have shown that there is a "strong relationship between the amount of recreational reading individuals engage in and their performance on other types of reading tasks" (Encyclopedia of Special Education, 2007, p.2). Unfortunately, *recreational* reading can often be extremely discouraging to those students who struggle with decoding, as they easily become frustrated and miss out on the interpretation of the text, which has the potential to provide enjoyment.

Becoming a proficient reader is essential for all purposes of reading. No matter the purpose, students derive meaning from text and apply this meaning to new concepts. It is

essential for students to master the building blocks of reading so that they can function in today's society, which puts such a great emphasis on reading.

### **Characteristics of an At-Risk Reader**

A proficient reader is described as one that can interact with print in a variety of ways. A skillful reader can successfully carry out their intended reading purpose at any given time. Whether they are completing an assignment in school, or reading for pleasure, they can gain meaning from the text and apply it to a given situation. Johnson et al., (2010), explain that proficient readers not only decode words on a page, but they put effort into understanding what the author has written.

At-risk readers vary at each grade-level. In the primary grades, when students are largely taught to decode text, at-risk readers lack the ability to segment or blend word parts together. They do not understand the sounds that letters make and therefore, cannot produce those sounds when they see them in print. Often times, these young, at-risk readers wait for someone else to assist them, they substitute sounds or words that do not make sense, or they lack strategies altogether, causing them to do nothing when they come to a challenging word (Johnson et al., 2010).

As students enter the intermediate grades, at-risk readers may still struggle with decoding the text, but they are also faced with another challenge: comprehending what they read. Porfeli (2011) explains in his study of oral reading rates that "by third grade early literacy skills should be developed to support the transition from learning to read to reading to learn" (p. 443). In the intermediate grades, students are expected to know how to read, and are then challenged with understanding and applying their gained knowledge to the text. These older at-risk students often read a passage and cannot summarize or paraphrase what they read. They cannot identify

main ideas or themes, and they cannot apply these ideas to their daily lives.

Whether a primary or intermediate at-risk reader, a person must develop an individualized strategic action plan that they can utilize when they come across a word or passage that is challenging for them to either decode or comprehend. Additionally, their reading processing system must be fully developed so they can make meaning of the words that they read and apply meaning in a particular situation.

### **Positive Effects of Building Reading Fluency**

Reading fluency is described by Kim and Petscher (2011) as accurate and rapid reading of connected text (p.108). Reading fluency has received a great amount of attention in recent reading studies. Previously, Allington (1983), explained that, “oral fluency rarely appears as an instructional objective in reading skill hierarchies, teacher’s manuals, daily lesson plans, individualized education plans, or remedial interventions” (p.556). Contrary to this previous belief, reading fluency, or the ability to read with speed, accuracy, and proper expression has been identified by the National Reading Panel as an essential reading skill (Kirk, Therrein, & Woods-Groves, 2012). Porfeli (2011) described a fluent reader as one who can quickly and accurately recognize words and can read them with expression, tempo, and rhythmic patterns.

Reading fluency has become more prevalent, as studies have begun to show that reading fluency and reading comprehension are closely aligned. Reading fluency is a stronger predictor of comprehension than direct measures of reading comprehension. (Kirk, et al., 2012). Research completed by Porfeli (2011) has documented a strong association between reading fluency and reading comprehension making reading fluency an important stage of the reading process (p. 442).

In Porfeli’s study (2011) documenting second grade students’ oral reading rates on fall,

winter, and spring assessments, it was evident that “students’ gender and special education status appear to be reliable predictors of their oral reading rate” as “differences between boys and girls and between special education children and non-special education children in the fall, winter, and spring of second grade” were noted (p. 448). Additionally, it was found that “school characteristics were significant predictors of the children’s initial oral reading status, but they were not significant predictors of their reading rate over time” (p. 442).

Another study completed by Kim, Lopez, and Wagner (2012) examined whether the relationship between text reading fluency and reading comprehension changes as children advance in their reading skills. In this study, results indicated “a certain level of word reading proficiency is required for listening comprehension to be uniquely related to the text reading fluency” (p.94). As research shows, increased reading fluency has a positive effect on student reading comprehension. Due to this correlation, it is essential that portions of students’ language arts instruction be focused on this essential skill of reading fluency.

### **Supporting “At-Risk” Readers – Phonics Instruction**

Research has identified various teaching methods to assist struggling and non-struggling readers. Johnson et al., (2010) claim that “although, about eighty percent of children learn to read just fine with a variety of programs, there are still twenty percent who struggle” (p. 12). Bowey (2006) explains that effective reading instruction should ensure that children can identify words within a text independently and effortlessly, so that they can emphasize the meaning of what they are reading, using their language skills to comprehend what they read.

While specified teaching methods may work for some students, at-risk readers often require phonics instruction in isolation in order to gain the foundational building blocks of reading. Phonics instruction is a type of reading instruction that systematically teaches letter-

sound relations and their use in reading words (Ehri, 2011).

A New Zealand study summarized the inclusion of systematic phonics instruction within the early reading curriculum (Bowey, 2006). The New Zealand study explained that effective phonics instruction incorporates the instruction of alphabetic principals, phonological awareness, or the ability to think about the sounds structure of words, letter-sound correspondence. In addition, it encourages the display of common letter combinations, and teaches the application of letter-sound patterns to the reading of words, blending of sounds, and provides strategies to assist with reading and spelling unfamiliar words. Phonics instruction encourages readers to utilize what they know about decoding words instead of making educated guesses about what the word could be based on context.

Even greater detail explains that phonics instruction has several required, interwoven components that make it effective (Ehri, 2011). The incorporation of phonemic awareness, or learning to detect, segment, and blend the smallest sounds in spoken word, grapheme-phoneme correspondence, decoding, analogizing strategies, and explicit instruction of spelling patterns through word study are included as some of these components. If all of these skills are integrated into a reading program, then comprehensive phonics instruction is delivered.

Research has also shown the importance in training educators to be highly-effective phonics instructors. Most teachers currently graduating from teacher education programs, received whole-language instruction as children. Bowey (2006) believes that whole-language instruction assumes that children acquire letter-sound correspondence and blending skills largely through their experience of reading for meaning, not including specific instruction of these decoding skills. As adults that were taught using whole-language instruction, new teachers are often unaware of the skills and strategies associated with teaching phonics instruction to

children. As research shows that the inclusion of phonics instruction within a child's language instruction is effective, teachers must also be sufficient instructors in this area, prior to beginning the delivery of phonics instruction.

### **Methods to Support At-Risk Readers – Research-Based Reading Interventions**

As the number of at-risk readers increases, educators must implement, RTI, or Response to Intervention. Denton, (2012) describes RTI as “a comprehensive school-wide framework through which students at-risk for reading difficulties are identified and provided with evidence-based and data-informed instruction and interventions before they fall farther behind their peers” (p.232). Additionally, RTI provides fluctuating levels of intervention, which are then frequently monitored to determine and document students' responsiveness to the intervention. Cavanaugh and Wanzek (2012) explain that instructional adaptations are then made, based on the observations of student performance, which then meet the needs of the at-risk reader.

Cowden (2012) shares two reading assessments that schools can use to assess and diagnose at-risk readers. The first assessment, the Qualitative Reading Inventory (QRI), assesses a student's cognitive decoding level through word lists. The QRI then provides a student's instructional reading level and the student then reads passages at that level and answers implicit and explicit questions related to the text. Additionally, Cowden shares a formalized assessment, the Woodcock Johnson, which provides standard scores at which children are compared to national norms.

The second assessment, the DIBELS: Dynamic Indicators of Basic Early Literacy Skills assessment, measures critical skills that underlie early reading success (Dill, Good, Kaminski, Laimon, Moats, Smith, 2002-2003). DIBELS is made up of various assessments which identify

and monitor the progress of students who are unlikely to meet state reading standards in third grade.

Once students are identified as being at-risk through the administration of one of the above assessments, a research-based intervention must be put into place. RTI has three tiers of intervention. Tier 1 occurs in the classroom and consists of the implementation of core reading instruction based on scientific reading research, which ensures high-quality instruction for all students (Cavanaugh et al., 2010). In the primary grades, Tier 1 instruction includes explicit instruction in phonemic awareness, phonics, and automatic recognition of high-frequency words, instruction in deriving meaning from text, with frequent opportunities for practice (Denton, 2012). When providing Tier 1 intervention to students, it is key that instruction be differentiated so that students are provided individualized instruction to meet their specific needs as readers.

If it is determined that Tier 1 interventions are not effective enough in teaching a child to read, then Tier 2 interventions, or intensive, systematic instruction in small groups, must be provided. Tier 2 interventions are implemented by a general education teacher, usually within the general education classroom. Targeted deficit areas are identified and the instructor provides additional instruction, usually three to five times per week for twenty to forty minutes. Research shows that if Tier 2 interventions are put into place in early grades, such as kindergarten, the intervention is more-likely to prevent reading difficulties (Denton, 2012). A study completed by Denton (2012), showed that 40% of students who participated in a Tier 2 intervention and then moved onto a Tier 3 intervention, performed in the average range on third grade standardized assessments.

On occasion, Tier 1 and Tier 2 interventions are not effective and a student must be provided Tier 3 intervention. Tier 3 interventions are considered “intensive” and are often

provided to students with identified reading disabilities. Evidence has shown that if appropriate RTI is provided to these students with severe reading impairments then improvements can be noted. Although it is usually good practice to start a student with less intensive tiered instruction, experts must sometimes decide whether a student must move right from a Tier 1 to a Tier 3 intervention. Marston (2005) explains that a Tier 3 intervention is typically comprised of one instructor and one to two students. Students usually receive two, thirty minute sessions, per day and last longer than a Tier 2 intervention, which usually spans a 10- to 20- week period of time. Especially in grade two or higher, students identified as having a severe reading impairment, may benefit from immediately being provided that intensive reading instruction (Denton, 2012). In a study about the various tiers of intervention and their effectiveness, Tier 1 utilized the *Core Instruction Curriculum*, Tier 2 utilized *Core Instructional and Supplemental Instructional Resources* and Tier 3 utilized *Core Instruction and Intensive Resources* (Marston, 2005).

Student growth within a tiered intervention is often affected by other variables, such as interventionist and location, group size, timing, and duration and frequency. The person providing the intervention instruction for a Tier 2 intervention is often a general education teacher, a trained support staff, such as a reading specialist or special educator, or a paraprofessional. If the provider of the intervention is not trained in all components of the intervention, then its effectiveness lessens. Location is also a key factor as the place in which the intervention is being provided can affect a student's ability to focus on the instruction and respond appropriately. Denton (2012) claims that groups should be small enough that student can actively participate and the teacher is able to closely monitor their performance within the group. As stated earlier, the earlier an intervention can be put into place, within a child's educational career, the more effective the instruction will be. Lastly is the effect of duration and

frequency on RTI. Studies show that Tier 2 interventions should be implemented at least three to five times per week for about twenty to forty minutes (Denton, 2012). Additional studies suggest that in order for students to benefit from RTI, twenty, consecutive weeks of intervention instruction must be provided.

### **SUMMARY**

It is increasingly evident that at-risk readers are present in all graders, in all schools. The implementation of research-based reading interventions is essential in attempting to close the gap between non-readers and high-achieving students. Reading fluency is a strong predictor of reading achievement, and, although there is not a large amount of research on reading fluency, studies have shown that fluency instruction and practice will improve student's ability to decode grade-level text. Additionally, phonics instruction has also been proven to effectively provide students with strategies that can be applied to the decoding of unfamiliar words. In addition to the provision of phonics instruction, RTI is a proven system that targets at-risk readers and their needs. Through the implementation of RTI, at-risk readers are provided evidence-based and data-informed instruction at varying levels to address their needs within the classroom. Through the combination of fluency practice, phonics instruction, and implementation of RTI, studies show that at-risk readers can eventually, over a period of time, improve their reading of grade-level text.

## **CHAPTER III**

### **METHODS**

#### **Design**

This study utilized a quasi-experimental design to evaluate whether or not the participation in research-based reading interventions effects at-risk, e grade student ability to fluently decode grade level text. The participants that were involved in the study were in a group of low-achieving students who were in need of Tier 2 reading intervention instruction. Therefore, there was no randomization in this study. An intervention was implemented and student progress was monitored.

The independent variable in the study was student participation in a research-based reading intervention, SIPPS-Extension. The dependent variable was the students' ability to fluently decode grade-level text. Fluency is defined by three elements; rate, accuracy, and prosody. Rate is a student's ability to automatically decode words, while accuracy is related to their ability to decode words within text accurately, and prosody is a student's ability to utilize appropriate phrasing and expression while reading. In the study, a pre-post test design was used, where students demonstrated fluent decoding by orally reading grade-level passages at a rate which is comparative to grade-level expectations. There were no constraints involved in the design of this study.

#### **Participants**

The sampling methodology utilized in this study was purposive and convenience, as the researcher chose a sample of students based on who the researcher thought would be appropriate for the study and the students that participated in the study were already enrolled at the researcher's school. The researcher had easy access to the students and the researcher had time

built into her schedule to provide the reading intervention four times per week. The group of students that participated in this study were identified as students who were in need of Tier 2 reading intervention instruction. This identification process was comprised of the student's performance on the beginning of the year DIBELS benchmark assessment, which was administered by the student's homeroom teacher to all second grade students. The scores of all students were then analyzed by the school's administration, reading specialist, and special educator, and the students with low performing scores, were identified as needing Response to Intervention (RTI).

In looking at all second grade students scores at the beginning of the year, at the researcher's school, it was determined that five students required a Tier 2 intervention. Four out of the five students that participated in the study were males, while one student was female. Additionally, four out of the five students that participated in the study were Caucasian students, while one was an Asian student. At the start of the study, four students were seven-years old, while one student was eight-years old.

### **Instrument**

The instrument that was utilized for the pre-and post-tests in this study was DIBELS: Dynamic Indicators of Basic Early Literacy Skills, Sixth Edition. According to Brunsmann and Shanahan's (2002-2003) review, DIBELS was designed to measure 'critical skills that underlie early reading successes'. DIBELS is made up of five benchmark assessments, Letter Naming, Initial Sound Fluency, Phoneme Segmentation Fluency, Nonsense Word Fluency, Oral Reading Fluency and Oral Retelling Fluency, and Word Use Fluency. Each benchmark assessment assesses various components, at differing levels, of the reading process. For this study, Oral Reading Fluency was utilized for the pre-and post-tests. "For Oral Reading Fluency, the

examiner listens while the student reads a fictional passage out loud and scores the number of correct read words in one minute. (Brunsman et al., 2002-2003, p.3).

Based on review cited above, DIBELS, Sixth Edition does not have strong validity or reliability. DIBELS is not valid because it does not measure what it is intended to measure, which is the evaluation of the effectiveness of reading instruction and to predict performance on high-stakes, summative tests of reading achievement. The data that is provided by the developers to support validity does not describe the participants or methodologies used in the studies. Additionally, the DIBELS introduction states that its creation is based on research of the prediction of reading difficulties in young children, whereas no data was found concerning the validity of the instructional classifications that result from the measure. DIBELS does not have strong reliability because it does not measure student reading abilities consistently. Scoring this measure requires examiners to interpret and record student responses during the one-minute assessment. Considerable judgment by examiners is required for scoring and mathematic calculations must be made. If the examiner fails to calculate or score the measure accurately, the student may not be placed within the proper grouping, and may not receive instructional intervention to support their needs. Additionally, differing examiners, student test anxiety, and the lack of rapport with the examiner, may affect student performance.

### **Procedure**

The participants in this study were identified as students who were in need of Tier 2 reading intervention instruction as of October 2013. Instruction began in October and occurred four days a week from 2:20-2:50 PM. This study began in January 2014 with the administration of the pre-test and lasted until May 2014, with the administration of the post-test. The intervention was administered by the researcher who is certified in special education.

Throughout the implementation of the intervention, students were given the opportunity to develop advanced phoneme awareness (segmentation and manipulation), more advanced phonics (consonant blends, final e, vowel digraphs, r-controlled vowels, and generalizations for c and y), and high-frequency irregular sight words.

Throughout each daily lesson, students worked through the six portions of a SIPPS lesson: Phoneme Play, Phonics and Decodable Words, Sight Words, Guided Spelling, Read a Story, and Fluency Practice. During all of these portions, the instructor utilized the materials that were provided in the SIPPS-Extension kit and used the language that was provided in the teacher's guide to instruct and prompt student response. During Phoneme Play, the instructor would say a word and prompt students to repeat the word and then say the sounds in the word separately, while pointing to the following visual cue:



During Phonics and Decodable Words intervention, the researcher would introduce new sounds by writing an example sentence on the board including those sounds. Words with those new sounds would be circled in the sentence. Sound cards would be utilized to assist the student in remember their new sounds. Older sounds that had previously been introduced to the students would then be reviewed and then students would read a mixed list of words containing previously taught sounds. While reading these words, the instructor would prompt the students to provide the sounds of each word in isolation and then blend the sounds together to read the whole word. During the Sight Word portion of the lesson, new sight words would be introduced

to the students using sight word cards and students would take time to review previously taught sight words, using the prompts “Read, spell, read”. During Guided Spelling, students would have a chance to apply the skills that were taught earlier in the lesson. Four decodable words and two sight words would be dictated to the students and then a simple sentence containing both taught sight words and words with previously taught sounds would be provided to the students and they would record their spellings on the provided dictation papers. Students would then have an opportunity to practice reading their sight words and sounds in a two-page story during Read s Story practice time. They would spend five to eight minutes rereading that story during Fluency Practice as well.

## CHAPTER IV

### RESULTS

The purpose of this study was to determine whether or not participation in research-based reading interventions effect at-risk, second grade student ability to fluently decode grade-level text. The five students that participated in the study through a purposive and convenience sampling, were provided research-based reading intervention instruction four times per week from October to May and their reading fluency was monitored using an oral reading fluency instrument, DIBELS, Sixth Edition.

Table 1 provides the mean and standard deviation of the pre-and-post test scores in relation to the students words read per minute and their percent accuracy. All student performance was determined based on their DIBELS, Sixth Edition, scores in October and again in May.

**Table 1**  
**Means and Standard Deviations of Pre and Posttest Measures**

<b>Measure</b>	<b>Pretest</b>	<b>Posttest</b>
<b>Words Per Minute</b>	31.80 (8.52)	48.20 (21.54)
<b>Accuracy</b>	86.2 (3.89)	92.0 (7.96)

Dependent *t*-tests were run to see if there was a significant difference in words read per minute or accuracy at post-test as compared to pre-test. Results showed there was no significant difference in words per minute [ $t(4) = -1.208, p >.05$ ) and no significant difference in accuracy [ $t(4) = -1.485, p >.05$ ).

The null hypothesis of this study was that student participation in research-based reading interventions does not affect at-risk, second grade student ability to fluently decode grade-level text, therefore the null was supported, based on the findings from the study.

## **CHAPTER V**

### **DISCUSSION**

The null hypothesis of this study was supported as the hypothesis predicted that student participation in research-based reading interventions does not affect at-risk, second grade student ability to fluently decode grade-level text. In looking at the statistical results from the dependent *t*-tests that were run, it showed that there was no significant difference in words read per minute or in reading accuracy with the implementation of the research-based reading intervention.

#### **Implications of the Results**

The results of this study suggest that there was no significant difference in words per minute or in reading accuracy with the implementation of the research-based reading intervention from January to May. Since there was not a significant difference in words read per minute, one could surmise that the implementation of the research-based reading intervention for four, thirty-minute sessions per week, did not assist in improving student reading fluency rate or student to comprehend grade level text. One could also conclude that, although the students may have mastered the skills taught in isolation during the intervention, it does not mean that they will be able to successfully apply the skill toward their reading of grade-level text within their homerooms, when integrated back with typically developing peers. The results also suggest that there is no significant difference between student reading accuracy, with the implementation of the reading intervention. Similarly, one could conclude that the teaching of phonics skills in isolation within a small group of students isolated from typically developing peers, does not guarantee their ability to accurately read the text independently.

#### **Theoretical Consequences**

The results of this study did not support some of the teaching methods that were

discussed in Chapter II. Specifically, it was believed that phonics instruction in isolation would assist in significantly improving reading fluency. The particular research-based reading intervention that was used throughout this study, SIPPS-Extension, provided students with the opportunity to develop their advanced phoneme awareness, more advanced phonics skills, and high-frequency irregular sight words. Even with the isolated phonics instruction, the participants' reading fluency did not significantly improve. Additionally, as discussed in Chapter II, the implementation of RTI (Response to Intervention) was predicted to assist in improving student reading fluency, as it targets at-risk students, and provides them with evidence-based and data-informed instruction and intervention, in order to keep them from falling farther behind their typically developing peers. The results of this study, did not support that the implementation of a Tier 2 reading intervention, through RTI, would improve reading fluency.

### **Threats to the Validity**

Throughout this study some of the major threats to internal validity were history, maturation, and differential selection. Throughout the study, one of the student participants was absent for a total of five intervention sessions, in which they missed several reviews of previously taught skills and the introduction of two new skills. The researcher attempted to provide additional instructional time to the student once they came back to school, but was unable to find a convenient time to do so. These absences occurred close to the end of the study, and could have affected the student's performance on the post-test.

Additionally, maturation could have affected the validity of this study. The time frame used for this study was five months. This long period of time offered students plenty of time to show growth, but one should consider that their minds and bodies may have been maturing at a

much faster rate than the SIPPS-Extension program had foreseen when published. The scripted program could have become tedious and tiresome to the students, which may have affected their willingness to focus on instruction and put forth true effort on the post-test.

The sampling methodology utilized in this study was purposive and convenience, as the students that were chosen were already identified as needing a Tier 2 reading intervention and the researcher had easy access to the students. The sample consisted of only five students and only looked at one group of students.

The major threat in this study to external validity was the generalization of the population, as the sample consisted of only five students. The sample size was limited, as interventions are most effective when they only focus on a small number of students. Ideally, more than one group of second grade students participating in SIPPS-Extension would have been analyzed, in order to broaden the results of the study.

### **Connections to the Literature**

Various studies have been conducted which analyze the effect of different reading interventions on student reading fluency, similar to this study. In a comparison study, Morris (2013) looked at the use of Readers Theatre's and Repeated Reading and its effect on the reading fluency of first grade students. Her results found that there was no significant difference between the use of Readers Theatre's and Repeated Reading, but that the use of both interventions was beneficial in improving student reading fluency. The use of Reader's Theatre's and Repeated Reading are similar to the use of the reading intervention that was used for this study, SIPPS-Extension. Both studies implemented an intervention and utilized DIBELS to track student growth. Unlike Morris' (2013) study which was conducted over a nine-week period, this study occurred over a five month period, which reduces some threats to validity.

Additionally, Marino (2013), conducted a study on the effects of ERI (Early Reading Intervention) on kindergarten reading scores. Although, her study did not solely focus on oral reading fluency, as kindergarten students are not developmentally expected to read fluently, her study looked closely at other phonemic processes, such as letter naming fluency, initial sound fluency, phoneme segmentation fluency, and nonsense word fluency, which are all precursors to oral reading fluency. Marino's (2013) results did not prove conclusively the effectiveness of ERI, although it did support that early identification is a valuable practice. Marino's (2013) results are similar to the results in this study, in that both showed that there was no significant difference in readability, either in kindergarten or second grade students, when a reading intervention was implemented.

### **Implications for Future Research**

This research could be utilized in future investigations on improving reading fluency or on implementing research-based reading interventions. Additional research could include: comparisons of different research-based reading interventions, enlarging the sample size, or targeting various age groups.

Similar to Morris' (2013) study, where she compared the effectiveness of two different reading intervention, one could utilize SIPPS-Extension and another research-based reading intervention, and compare student results. This would assist in determining whether or not all research-based reading interventions made no significant difference, or whether or not it was just the intervention that was utilized in this study. By enlarging the sample size, to more than one group of second grade students participating in SIPPS-Extension, it would have broadened the results of the study. This would make it easier to determine the effectiveness of the program or whether or not threats to validity were the cause of the low improvement rate of the students.

Lastly, similar research could be conducted, with various sample groups, targeting students in various grades. It would be beneficial to analyze the maturity of the students and whether or not that has an effect on their involvement in the reading intervention and their ability to apply the skills to grade level texts.

### **Conclusion**

The null hypothesis of this study was supported, demonstrating that participation in research- based reading intervention does not affect at-risk, second grade student ability to fluently decode grade level text. The results of this study showed that there was no significant difference between students words read per minute and their reading accuracy, when the intervention was implemented. From the results, one can see that, although small improvements were made, significant differences were not achieved. The researcher learned that future studies should consist of larger sample sizes allowing for more data analysis. Additionally, future studies could be conducted looking at different types of reading interventions and different age-groups of students.

## REFERENCES

Allington, R.L. (1983). Fluency: The neglected reading goal. *The Reading Teacher*, 36 (6) 556-561.

Bowey, J.A. (2006). Need for systematic synthetic phonics teaching within the early reading curriculum. *Australian Psychology*, 41(2), 79-84.

Brunsmann, B., Shanahan, T. (2002-2003) [Review of DIBELS: Dynamic Indicators of Basic Early Literacy Skills, Sixth Edition.] In R. A. Spies & B. S. Plake (Eds.), *The sixteenth mental measurements yearbook*. Lincoln, NE: Buros Institute of Mental Measurements.

Cavanaugh, C., Wanzek, J. (2012). Characteristics of general educational reading interventions implemented in elementary schools for students with reading disabilities. *Remedial and Special Education*, 33(3), 192-202.

Cowden, P.A. (2012) Cognitive strategies for students with mild learning disabilities. *Education*, 133(1) 151-154.

Denton, C.A. (2012). Response to intervention for reading difficulties in the primary grades: Some answers and lingering questions. *Journal of Learning Disabilities*, 45(3), 232-243.

Dill, S., Good, R.H., Kaminski, R.A., Laimon, D., Moats, L.C., Smith, S. (2002-2003). *DIBELS: Dynamic indicators of basic early literacy skills, Sixth edition*. Longmont, CO: Sopris West.

Ehri, L.(2011). Teaching phonemic awareness and phonics in the language arts classroom. In *Handbook of research on teaching the English language arts*. Retrieved from [http://search.credoreference.com/content/entry/routengart/teaching\\_phonemic\\_awareness\\_and\\_phonics\\_in\\_the\\_language\\_arts\\_classroom/0](http://search.credoreference.com/content/entry/routengart/teaching_phonemic_awareness_and_phonics_in_the_language_arts_classroom/0)

Johnson, P., Keier, K. (2010). *Catching readers before they fall: Supporting readers who struggle, K-4*. Stenhouse Publishers.

Kim, Y.S., Petscher, Y. (2011). The utility and accuracy of oral reading fluency score types in predicting reading comprehension. *Journal of School Psychology*, 49, 107-129.

Kim, Y.S, Lopez, D., Wagner, R. K. (2012). Developmental relations between reading fluency and reading comprehension: A longitudinal study from grade 1 to grade 2 *Journal of Experimental Child Psychology*, 113(1), 93-111.

Kirk, J.F., Therrien, W.J., Woods-Groves, S. (2012). Comparison of a reading fluency intervention with and without passage repetition on reading achievement. *Remedial and Special Education*, 33(5), 309-319.

Marino, L.A. (2013). The Effect of Early Intervention on Reading Scores of At Risk Kindergarten Students. Retrieved from <http://cdm16235.contentdm.oclc.org/cdm/ref/collection/p16235coll12/id/113>

Marston, D. (2005). Tiers of intervention in responsiveness to intervention: Prevention outcomes and learning disabilities identification patterns. *Journal of Learning Disabilities*, 38(6), 539-44. Retrieved from <http://search.proquest.com/docview/194224030?accountid=11164>

Morris, K. B. (2013). A Comparison of Readers Theatre and Repeated Reading on Reading Fluency of First Grade Students. Retrieved from <http://cdm16235.contentdm.oclc.org/cdm/ref/collection/p16235coll12/id/165>

Porfeli, E. (2011). Oral reading rates of second-grade students. *Journal of Educational Psychology*, 103(2), 442-454.

Wiley (2007). *Encyclopedia of Special Education: A Reference for the Education of Children, Adolescents, and Adults with Disabilities and Other Exceptional Individuals*. Hoboken: Wiley, 2007.