The Effects of a Repeated Reading Fluency Intervention on

DIBELS Reading Fluency Scores

_____

A Special Project

Presented to

Dr. Robert P. Kraig

Heritage University

_____

In Partial Fulfillment

of the Requirements for the Degree

Masters of Education

_____

Alana Erickson

August 20th, 2010

FACULTY APPROVAL

The Effects of a Repeated Reading Fluency Intervention on

DIBELS Reading Fluency Scores

A Master's Special Project

by

Alana Erickson

Approved for the Faculty

_____, Faculty Advisor

Dr. Robert P. Kraig

_____, Date

ABSTRACT

The Effects of a Repeated Reading Fluency Intervention on

DIBELS Reading Fluency Scores

Researcher: Alana N. Erickson, B.A. in Elementary Education, Saint Martin's

University, M.Ed., Heritage University

Chair Advisory Committee: Robert P. Kraig, PhD.

The researcher conducted a Quasi-Experimental designed study. The

purpose of the study was to determine if the reading fluency program, *6 Minute

Solution*, was effective in improving reading fluency scores on the Dynamic

Indicator of Basic Early Literacy Skills (DIBELS) assessment. Two fifth-grade

classrooms at South Bay Elementary participated in the study. The control

classroom consisted of 24 fifth-grade students, and the experimental group

consisted of 23 fifth-grade students. The intervention was conducted for 11

weeks. At the end of that time period the DIBELS scores were examined to

determine effectiveness of the program. The growth shown by the experimental

group was not significant enough to support the hypothesis, therefore, the null

hypothesis was accepted.

PERMISSION TO STORE

I, Alana N. Erickson, hereby irrevocably consent and authorize Heritage University Library to file the attached Special Project entitled, *title of my special project,* and make such Project and Compact Disk (CD) available for the use, circulation and/or reproduction by the Library. The Project and CD may be used at Heritage University Library and all site locations.

I state at this time the contents of this Project are my work and completely original unless properly attributed and/or used with permission.

I understand that after three years the printed Project will be retired from the Heritage University Library. My responsibility is to retrieve the printed Project and, if not retrieved, Heritage University may dispose of the document. The Compact Disc and electronic file will be kept indefinitely.

_____, Author
_____, Date

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

Introduction

Background for the Project

Student scores on standardized assessments had increasingly been a

driving force of decisions in primary and secondary education since the passing of

the No Child Left Behind Act of 2001 (NCLB). This act aimed to improve the

performance of the U.S. education system by increasing the amount of

accountability at every level; state, school district, and individual school.

The result of NCLB in Washington State was the development of the

Washington Assessment of Student Learning (WASL). This assessment was

replaced in 2009 by two separate assessments: the Measurement of Student

Progress (MSP) and the High School Proficiency Exam (HSPE). The MSP was a

common statewide test administered to students in grades 3-8. The HSPE was a

common statewide test administered to students in grade 10. Students were tested

in grades 3-8 and 10 in reading and math. Students also were tested in writing

during grades 4, 7, and 10, and tested in science during grades 5, 8, and 10 (OSPI

www.k12.wa.assessment/default.aspx).

Student achievement on the fifth grade Reading WASL was the motivating

factor for this study. The 2008 fourth grade Reading WASL scores of South Bay

students were examined in order to determine an area of focus for a grade level goal. After an extensive review of the literature the area of reading fluency was chosen as a topic for this study. This was due to the direct correlation between reading fluency and overall reading achievement as noted by Martens and Echert (2007).

There were numerous interventions for reading fluency available to educators, and many had the same common theme of repeated readings. The reading fluency intervention chosen to investigate in this study was a repeated readings style program, *6 Minute Solution*.

The most common measurement of reading fluency was the Dynamic Indicators of Basic Early Literacy Skills (DIBELS). This was an assessment of early reading skills with subtests designed to measure phonemic awareness, fluency, phonics, and comprehension (Riedel, 2007). This assessment was chosen as the best method to measure the effects of the intervention, *6 Minute Solution*, on student achievement in the area of reading fluency.

Statement of the Problem

After examining WASL scores for the 2008-2009 school year it became evident that reading was an area of concern for the 2009-2010 fifth grade class at South Bay Elementary. The average WASL scores in all areas for these students

2

were lower than the previous three fifth grade classes. In the 2008-2009 school year only 77% of fourth grade students at South Bay Elementary performed at or above standard on the Reading WASL. This was compared to 90% for the 2006-2007 school year, and 88% for the 2007-2008 school year. Thus, the 2009-2010 fifth grade students at South Bay Elementary needed additional instruction in the broad area of reading as demonstrated through their fourth grade Reading WASL scores. The goal was then set to increase Reading scores to 85% of fifth grade students performing at or above standard for the 2009-2010 school year.

The focus of this study was narrowed down to reading fluency by the fact that reading fluency performance directly correlates with reading comprehension performance, as well as overall achievement in the area of reading. As Martens and Echert explain, "In a number of empirical studies, a strong, positive relationship has been established between oral reading fluency and overall reading competence" (2007, p. 40). Consequently, a review of literature pertaining to reading fluency interventions was conducted. The end result was the decision to conduct a study on the effectiveness of the reading fluency program *6 Minute Solution*. This program was chosen as the vehicle to help accomplish the goal of increasing student reading fluency, and in turn increase student performance on the Reading WASL.

Purpose of the Study

The purpose of this study was to determine if the reading fluency intervention of *6 Minute Solution* increased student achievement on the DIBELS reading fluency assessment.

Delimitations

This project was delimited to two fifth grade classes at South Bay Elementary School in the North Thurston School District, located in Lacey, Washington. There were 24 students in the control class and 23 students in the experimental class. This study was conducted during the 2009-2010 school year. The enrollment at South Bay Elementary during the time of the study was 726 students. The ethic make-up of South Bay Elementary was as follows: American Indian/Alaskan Native 4.6%, Asian 7.1%, Black 4.0%, Hispanic 4.0%, and White 78.6%. The population of students who qualified for free and reduced lunch was 19%.

The assessment tool used to gather data was the DIBELS reading fluency assessment. Each student was individually assessed during the initial assessment as well as the post intervention assessment.

Assumptions

In this study the assumption was made that all students gave full effort on the DIBELS reading fluency assessment, during both the initial assessment and post assessment. The assumption was also made that all students gave full effort during the class time spent on the reading intervention. A third assumption made was that the assistants conducting the DIBELS assessment gave the assessment correctly for all students.

Hypothesis

Fifth grade students who participate in the reading fluency program *6 Minute Solution*, as a supplement to the standard district curriculum, will score higher on the DIBELS reading fluency assessment than fifth grade students who do not participate in the program. Students who participate in the *6 Minute Solution* program will feel more confident in their overall reading ability than students who do not participate in the program.

Null Hypothesis

Fifth grade students who participate in the reading fluency program *6 Minute Solution*, as a supplement to the standard district curriculum, will not score higher on the DIBELS reading fluency assessment than fifth grade students who do not participate in the program. The confidence level of students

5

participating in the program *6 Minute Solution* will be the same as students not participating in the program.

Significance of the Project

The purpose of this project was to provide a factual base of evidence regarding the effectiveness of the program *6 Minute Solution* as a reading fluency intervention. The study examined evidence to determine whether or not *6 Minute Solution* was effective in increasing student reading fluency scores a significant amount.

The *6 Minute Solution* program has been used in one fifth grade class at South Bay Elementary, but not by the grade level as a whole. The time commitment necessary to implement the program WAS significant. Therefore, the benefits of the program needed to outweigh the time commitment. The results of this study were used to make a decision about the implementation of the program in all four fifth grade classrooms.

Procedure

For the purpose of this project, the following procedures were implemented:

1. Permission to conduct research at South Bay Elementary was granted by Principal Kathi Weight (see Appendix A).

2. A review of selected literature was conducted at Heritage University, South Bay Elementary School, and through internet search engines.

3. A meeting was conducted to determine the specific reading fluency intervention to be studied.

4. A partnership was formed with one other fifth grade class at South Bay Elementary for the purpose of a control group.

5. The DIBELS reading fluency assessment was given to each student in both sample groups.

6. Scores from the DIBELS assessment were tabulated (see Appendix B).

7. A survey of student confidence levels in regards to reading was given to the 23 students in the control group (see Appendix C).

8. A survey of student confidence levels in regards to reading was given to the 22 students in the experimental group (see Appendix D).

9. Results from both reading confidence surveys were tabulated and graphed (see Appendix E).

10. The *6 Minute Solution* program for reading fluency intervention was implemented in the classroom of the experimental group.

11. The DIBELS reading fluency assessment was conducted for each student in both sample groups.

12. DIBELS scores were tabulated (see Appendix F).

13. A post intervention survey of reading confidence levels was given to all 23 students in the control group (see Appendix G).

14. A post intervention survey of reading confidence levels was given to all 22 students in the experimental group (see Appendix H).

15. Data from both surveys was tabulated and graphed (see Appendix I).

16. Results from the study were examined, evaluated, and conclusions were drawn.

17. A meeting was conducted to determine the effectiveness of the program and make a decision in regards to future implementation across the grade level.

Definition of Terms

For the purpose of this study, the following words are defined:

Reading Fluency. The ability to orally read with speed, accuracy, and correct expression (Therrien and Hughes, 2007).

Washington Assessment of Student Learning. A state level assessment that "requires students to both select and create answers to demonstrate their

knowledge, skills, and understanding in each of the Essential Academic Learning

Requirements (EALR's)" (OSPI www.k12.wa.us/assessments/WASL).

Essential Academic Learning Requirements. "Describe the learning

standards for grades K-10 at three benchmark levels; elementary, middle, and high

school (OSPI www.k12.wa.us/CurriculumInstruct/EALR_GLE.aspx).

Dynamic Indicators of Basic Early Literacy Skills. A commonly used

assessment of early reading skills with subtests designed to measure phonemic

awareness, fluency, phonics, and comprehension (Riedel, 2007).

Measurement of Student Progress. One of 2 tests that replaced the WASL

in the 2009-2010 school year. The Measurement of Student Progress (MSP) is

administered to students in grades 3-8.

Acronym

NCLB. No Child Left Behind Act

WASL. Washington Assessment of Student Learning

EALR's. Essential Academic Learning Requirements

GLE's. Grade Level Expectations

DIBELS. Dynamic Indicators of Basic Early Literacy Skills

WPM. Words Per Minute

SBE. South Bay Elementary School

MSP. Measurement of Student Progress

IEP. Individualized Educational Plan

CHAPTER 2

Review of Selected Literature

<u>Introduction</u>

This chapter has been organized around the following topics: (a) The No Child Left Behind Act, (b) Correlation Between Reading Fluency and Overall Reading Proficiency, (c) Reading Fluency Rates and the Relationship to Standardized Test Scores, (d) Reading Fluency Defined, (e) Research-Based Reading Fluency Instructional Methods, (f) Reading Fluency Assessments, and (e) Summary.

<u>No Child Left Behind</u>

President George Bush signed the No Child Left Behind Act (NCLB) into effect in 2001. "The NCLB significantly raises expectations for states, local school districts, and schools in that all students will meet or exceed state standards in reading and mathematics by 2013-2014" (OSPI www..k12.wa.us/esea/NCLB.aspx). The four pillars of the NCLB were accountability, flexibility, researched-based education, and parent options (OSPI www.k12.wa.us/esea/NCLB.aspx). The end result of NCLB has been a transformation to a standards based educational system with high stakes testing being the primary tool in assessment, and ultimately accountability.

Under NCLB all states have worked to close the achievement gap between disadvantaged students and all other students. The government held schools accountable for this by making sure that all schools were meeting the Adequate Yearly Progress Goals (AYP). Schools that did not meet the AYP goals after five years were forced to make dramatic changes in the way the school was run (OSPI www.k12.wa.us).

Washington State's primary vehicle for assessing student proficiency and holding schools accountable was the Washington Assessment of Student Learning (WASL). The WASL was introduced in the spring of 1997, and was last administered in the summer of 2009. The WASL was replaced in 2009-2010 by two separate assessments: the grades 3-8 Measure of Student Progress (MSP) and the High School Proficiency Exam (HSPE) (OSPI www.k12.wa.us).

"The MSP name conveys the goal of the test: to measure student progress" (OSPI www.k12.wa.us). The reading and mathematics MSP are administered to all students in grades 3-8. The science MSP was administered to students in grades 5 and 8, and the writing MSP to grades 4 and 7.

The goal of the HSPE was to measure a student's proficiency of basic skills. The HSPE was administered to all 10th grade students and included exams

in the following subjects: reading, writing, mathematics, and science (OSPI www.k12.wa.us). Meeting standard on the HSPE will be a graduation requirement for all students beginning with the class of 2013. In order to be eligible for graduation, students will be required to meet standard in all four areas: math, reading, writing, and science (OSPI www.k12.wa.us).

The reading portion of the MSP and the HSPE was the portion that related to this study. In order for a student to meet standard on the reading portion of the MSP and the HSPE he/she must have achieved a score of 400 or more. The reading portion of the MSP and HSPE consisted of multiple choice and short answer questions, with the majority of points coming from multiple choice questions. The reading portion of the MSP and HSPE included both literary passages and informational passages. The literary strands addressed were: literary comprehension, literary analysis, and literary critical thinking. The informational strands addressed were: informational comprehension and informational critical thinking (OSPI www.k12.wa.us).

Correlation between Reading Fluency and Overall Reading Proficiency

While there were different strands of reading measured on the MSP, the ultimate skill being assessed was reading comprehension. The MSP measured whether or not students understood what they were reading by requiring them to

13

think critically about the text and analyze the contents of the text. Therefore, to demonstrate proficiency on the MSP students must have been proficient in reading comprehension.

There were countless researched methods for improving student reading comprehension, and thus a vast amount of research was available on the subject. One researched method for improving reading comprehension was to improve reading fluency. As Therrien and Hughes (2008) explained, "The importance of reading fluency for comprehension is well established. In fact, students' ability to read fluently has been shown to predict reading comprehension better than direct comprehension measures" (p. 2).

The skills of reading fluency and comprehension were closely linked. As Hudson, Lane, and Pullen explained, "The most compelling reason to focus instructional efforts on students becoming fluent readers is the strong correlation between reading fluency and reading comprehension" (2005, p. 703). Applegate, Applegate, and Modla (2009) explained this correlation as resulting from the need for readers to focus on one skill or the other. They also noted that, cognitively readers must master the skill of fluency before being able to transfer that focus to comprehension. "If readers have not developed automaticity in word recognition, then the efforts they must expend in decoding will almost necessarily limit the

efforts they can direct to comprehension" (Applegate, Applegate, and Modla, 2009, p. 512). Consequently, the same would be true of the opposite situation. The more automatic decoding was for a reader, the more energy and focus the reader was able to devote toward comprehension. Thus, when fluency scores increased comprehension scores should have increased as well.

This same idea was explained by Martens and Eckert (2006) as well. Reading fluency was directly correlated with reading comprehension, and on a broader scope, overall reading proficiency. "Models of reading competence have characterized fluency as an important link between word decoding and passage comprehension as it is believed to lighten the burden on working memory thereby promoting the comprehension of text" (Martens and Eckert, 2006, p. 40). When a student had to direct the majority of his/her effort and focus on word decoding the meaning of the text was lost. "In a number of empirical studies, a strong, positive relationship has been established between oral reading fluency and overall reading competence" (Martens and Eckert, 2006, p. 40). Therefore, improving a student's reading fluency should increase his/her overall reading competence as well.

Calhoon and Otaiba took it one step farther by making the statement, "The ability to read has a lifelong impact on access to knowledge and economic success" (2006, p. 261). Reading fluency directly impacted reading proficiency,

and thus, impacted the overall ability to access knowledge. The ability to access

knowledge was vital to success, not only in school, but in every aspect of life.

Reading Fluency Rates and the Relationship to Standardized Test Scores

A study conducted in Colorado examined the correlation between student

reading fluency rates, and student reading scores on the state's standardized

assessment. The study found that the fluency rates were a significant indicator of

student achievement on the state test. "This study demonstrated a strong

relationship between oral reading fluency and performance on a statewide reading

proficiency test" (Wood, 2006, p. 99). The study found that reading fluency rates

were a reliable indicator of student achievement on the standardized test.

The correlation between reading fluency rates and student achievement on

the WASL was demonstrated by examining the scores of 5th grade students at

South Bay Elementary School.   The scores of achievement on the Dynamic

Indicators of Basic Early Literacy Skills (DIBELS) assessment directly correlated

to Reading WASL scores. In fact, 88% of fifth grade students at South Bay

Elementary met standard in the area of reading fluency as assessed by the DIBELS

reading fluency assessment for the 2008-2009 school year, and 92% of those

students met or exceeded standard on the Reading WASL that same school year.

There was only a 4% difference between students meeting standard on the

Reading WASL and students meeting standard on the DIBELS assessment. The same trend was evident by examining scores from the 2007-2008 school year. Fifth grade students meeting standard on the Reading WASL was at 93%, while the percentage of students meeting standard on the DIBELS assessment was at 91% resulting in a difference of only 2%.

Reading Fluency Defined

The topic of reading fluency is another well researched area. The measurement and instruction of reading fluency has been identified as a significant goal of all educators (Wood, 2006, p. 86). Reading fluency has also been identified by the National Reading Panel as "A key ingredient in successful reading instruction" (Griffith and Rasinski, 2004, p. 126). Therefore, the subject has been a growing topic of discussion and debate in recent years.

Other literature provided a similar definition of reading fluency: "The ability to read connected text rapidly, smoothly, effortlessly, and automatically with little conscious attention to the mechanics of reading such as decoding" (Vadasy and Sanders, 2008, p. 235). There were three primary areas of reading fluency: accuracy, rate, and expression. All three areas were of equal importance to the overall development of reading fluency. A reader could not have proficient

reading fluency without proficiency in all three specific areas. As Hudson, Lane, and Pullen explained, "Without accurate word reading, the reader will have no access to the author's intended meaning, and inaccurate word reading can lead to misinterpretations of the text" (2005, p. 703). Thus, poor reading fluency led to poor comprehension. Hudson, Lane and Pullen also explained that, "Poor automaticity in word reading or slow, laborious movement through the text taxes the reader's capacity to construct an ongoing interpretation of the test. Poor prosody (expression) can lead to confusion through inappropriate or meaningless groupings of words or through inappropriate applications of expression" (2005, p. 703). Therefore, reading fluency was more than simply "reading fast", reading fluency was expression and accuracy as well.

Researched Based Reading Fluency Instructional Methods

The key to effective reading fluency instruction was a focus on all three identified components: accuracy, rate, and expression. "Each aspect of fluency has a clear connection to text comprehension" (Hudson, Lane, Pullen, 2005, p. 703).

One instructional method for reading fluency was assisted reading to specifically improve prosody. This method was conducted as unison reading, echo reading, or cloze reading. As Hudson, Lane, and Pullen explained, "Echo

18

reading is a technique in which the teacher reads a phrase or sentence and the student reads the same material just behind him or her. In unison reading, the teacher and student read together, and in assisted cloze reading, the teacher reads the text and stops occasionally for the student to read the next word in the text" (2008, p. 712).

Another instructional method for teaching reading fluency WAS peer assisted reading. Peer assisted reading included teacher led lessons followed by, "peer practice on grade-level skills" (Calhoon and Otaiba, 2006, p. 262). This method of reading fluency instruction had been effective at giving students more reading practice time. In fact, one empirical study, conducted by Calhoon and Otaiba (2006), showed this method giving students two to three times more reading practice time and more time for response to text and engagement in literate discourse. This method had been proven as effective in some situations, but was not a wide-spread method.

The most common instructional method for teaching reading fluency was repeated reading. As Vadasy and Sanders explained, "Repeated reading is the most widely applied and studied remedial method to develop fluency" (2008, p. 236). In a review of 24 studies involving oral reading fluency rates in elementary aged students with learning disabilities, repeated reading was found to be a core

intervention component of all studies reviewed (Martens and Eckert, 2006, p. 40).

Through this same review of studies, there were four main categories of repeated

reading methods found to be present. The first of these four was repeated

readings without modeling. The second was repeated readings with modeling

(e.g. listening passage preview). Repeated reading with multiple features was the

third category (e.g. peer tutoring, comprehension strategies). And the last

category was repeated readings with other intervention elements and word

practice interventions (e.g. phase drill error correction).

Essentially, all repeated reading interventions involved reading a short

passage orally several times. This was the core of repeated reading intervention

programs. After that core philosophy, repeated reading based programs differ

greatly.   In some programs the repeated readings were leveled and gradually

increase in difficulty. Another aspect that varies between repeated reading

interventions was independent reading vs. assisted reading (Vadasy and Sanders,

2008). There were many different interventions and strategies based on this basic

repeated reading instructional method, and all vary in format.

6 Minute Solution was one of the reading fluency interventions based on

the instructional method of repeated readings. The *6 Minute Solution* program

was first developed as a district-wide intervention program in 2000, and after a

great deal of success, was published in 2003 (Florida Center for Reading

Research, 2007, p.4). The *6 Minute Solution* was designed to be used as a

supplement to a core reading curriculum, or as an intervention tool. The goal of

the program was to provide students with, "…concentrated practice on phonemic

elements, sight word vocabulary, and expository passage reading in order to build

overall reading fluency and boost achievement" (Florida Center for Reading

Research, 2007, www.fcrr.org, p. 3). While the program had many different

facets, partner reading is the primary activity in the program. *6 Minute Solution*

was classified as a repeated readings program with multiple features. Although

the primary activity was partner reading, there were 3 other significant aspects of

this program: comprehension strategies, decoding strategies, and sight word

recognition strategies.

As can be assumed from the title of the program, the structure of the

program provided students with a 6 minute routine for working on reading

fluency. However, before students could begin the routine there were several

steps that have to be completed. The first step to implementing this program was

to select the desired instructional grouping: "Entire classroom, small groups

within a class, individual, special-needs group, parent/student partnerships, or

cross-age partnerships" (Adams and Brown, 2003, p. 14). Once the grouping was

chosen, the appropriate fluency partner was chosen. Students needed to be

matched as closely as possible by oral-reading fluency rates and instructional

reading level. "An appropriate match is critical to success" (Adams and Brown,

2003, p. 13).

After those two steps were completed a six minute daily routine was

taught and students independently completed the routine 3-5 times per week. The

number of times the program was practiced per week was dependent upon the

purpose and goals of the educator implementing the program. During the routine

one partner read while the other partner recorded mistakes and the total number of

words read. The partners switched and repeated the process. From start to finish

the six minute routine included both partners reading orally for one minute, both

recording the number of oral reading errors made during the one minute, and both

recording total words per minute read correctly.

The length of program implementation varied from 6-25 weeks. Six

weeks was the minimum length suggested to yield positive results on student

reading fluency and comprehension. 25 weeks was the maximum amount of

program resources provided in each manual. There was a manual for primary,

intermediate, and secondary levels.

Reading Fluency Assessments

Once again, as with instructional methods, the three main components of reading fluency (accuracy, rate, and prosody) must be addressed in order for a reading fluency assessment to be effective. There were many reading fluency assessments used by educators, however the most commonly used were: Dynamic Indicators of Basic Early Literacy Skills (DIBELS), AimSweb Standard Reading Assessment Passages (RAPs), Gray Oral Reading Test, National Assessment of Educational Progress (NAEP) fluency scale, and Reading Fluency Monitor by Read Naturally (Hudson, Lane, Pullen, 2005).

The DIBELS assessment was a wide spread tool for measuring the oral reading rate of students. "The DIBELS system has become a commonly used measure of early reading skills in U.S. elementary schools in the past 10 years" (Schilling, Carlisle, Scott, and Zeng, 2007, p.430). According to the DIBELS Data System Website, "During the 2007-2008 school year, the Data System was used in over 15,000 schools" (https://dibels.uoregon.edu/samples/index). The DIBELS assessment system is one of the most commonly used assessments in elementary schools.

The DIBELS system involved measuring student progress in 5 different areas: phonemic awareness, alphabetic principle, accuracy and fluency, vocabulary, and comprehension (https://dibels.uoregon.edu). It also provided

23

benchmarks to help educators monitor student progress toward year-end goals.

The DIBELS system was designed to measure student reading progress at the

beginning of the year, middle, and end. This provided timely feedback to

educators and an opportunity to implement intervention where necessary, and

make validated instructional decisions (https://dibels.uoregon.edu/samples/index).

Summary

The focus of this chapter was to address the available evidence to the

topics of (a) The No Child Left Behind Act, (b) Correlation Between Reading

Fluency and Overall Reading Proficiency, (c) Reading Fluency Rates and the

Relationship to Standardized Test Scores, (d) Reading Fluency Defined, (e)

Research-Based Reading Fluency Instructional Methods, and (f) Reading Fluency

Assessments.

CHAPTER 3

Methodology and Treatment of the Data

Introduction

This chapter has been organized around the following topics: (a)

Methodology, (b) Participants, (c) Instruments, (d) Design, (e) Procedure, (f)

Treatment of Data, (g) Summary.

Methodology

The methods for this special project began with a review of selected

literature. This review of literature was conducted through the use of Heritage

University's on-line database, as well as through the use of internet search

engines. Literature and information was also gathered from the professional

resources at South Bay Elementary. After the review of literature was conducted,

permission for the project was granted by South Bay Elementary Principal, Kathi

Weight.

The next step that was taken was gathering data through experimental

research. The purpose of the experimental research was to test the project

hypothesis, and also support or not support a cause-effect relationship between the

reading fluency program *6 Minute Solution* and reading fluency scores on the

DIBELS assessment.

During this study descriptive research was also conducted in the form of a pre and post survey. Both surveys were given to all participants in the study. The survey measured participants' perceptions of reading, and their reading ability. This survey was designed to measure participant reading confidence prior to the study, and their level of confidence post study. All survey data was tabulated and graphed (see Appendix E and I).

Participants

The experimental group in this study consisted of 23 fifth grade students during the 2009-2010 school year at South Bay Elementary School, in the North Thurston School District. In the experimental group there were 14 male students and 9 female students. In the experimental group 3 students had individualized education plans in the area of reading. The ethnic make-up of the experimental group was 17.3% Asian, 13% Native American, 4.3% African American, 4.3% Latin American, 60.8% White.

The controlled group consisted of 24 fifth grade students during the 2009-2010 school year at South Bay Elementary School in the North Thurston School District. In the controlled group there were 12 males and 12 females. There were 4 students in this group with individualized education plans in the area of reading.

The ethnic make-up of this class was 8.3% Asian, 8.3% Native American, 4.2% African American, 12.5% Latin American, 66.7% White.

Instruments

There were two instruments used to gather data in this study. The first of these was the DIBELS reading fluency assessment. This assessment was a district-wide reading fluency assessment required to be conducted three times a year, in September, January, and June. The assessment was given to all participants of the study in September of the 2009-2010 school year, and then again in January of that same school year. The assessment was conducted by classroom teachers trained in DIBELS procedures.

In the initial DIBELS assessment, in September, participants from both the controlled group and the experimental group were assessed. During the DIBELS assessment, participants read three separate fifth grade reading level passages, each for one minute. Misread words were marked, and the total number of words read correctly in one minute was recorded for each of the three passages. The median score was recorded as the September DIBELS assessment score. Scores were tabulated and graphed (see Appendix B). The same process was conducted for the January DIBELS assessment. These scores were also tabulated and graphed (see Appendix F).

The other tool used to gather data in this study was a survey. The survey asked participants ten different questions regarding perceptions of reading and participant feelings about reading activities. The survey asked participants to answer each question on a scale of strongly agree, agree, disagree, or strongly disagree. Participants circled the choice for each question that best fit their feelings. One survey was given prior to the intervention *6 Minute Solution* being introduced to the experimental group, and the same survey was given after the intervention was conducted for 11 weeks. The survey was given to both the experimental and the controlled group on both occasions.

An internal validity issue present in this study was differential selection of participants. In this study students were in already-formed groups when the study began. Therefore, differences prior to the study may have already existed. To limit the effect of this validity issue, the researcher chose the fifth grade class with the DIBELS scores most closely matched with the DIBELS scores of the experimental group. The researcher also chose the control group the matched closely in the categories of number of IEP students and ethnic diversity. Therefore, the number of pre-existing differences between the two groups was limited as much as possible by the researcher.

The instrumentation validity in this study was not an issue. The same

assessment, DIBELS, was used as a pre-test and a post-test. The assessment was -

administered by the same two professionals for both the pre and post tests. Also,

the same testing procedures were followed in both the pre and post tests, and for

both the controlled and experimental groups. The nature of the DIEBLS

assessment ruled out the influence of the experimenter bias effect. The DIBELS

assessment was an objective assessment of student fluency. Biases of the

researcher were rendered insignificant by the strict procedures and absence of

subjective assessment techniques.

Design

This study was a single-variable design, with the one manipulated variable

being the reading fluency intervention program *6 Minute Solution.* This variable

was introduced to the experimental group, while no interventions were used with

the controlled group. This study falls in to the category of a quasi-experimental

design because the groups were predetermined, and not randomly selected. A true

experimental design was not feasible, since already existing classrooms were used

as the groups in the study. In the category of quasi-experimental designs, this

study was more specifically a nonequivalent control group design. The two pre-

existing groups were pre-tested, the experimental group was introduced to the

variable, and both groups were post-tested.

<u>Procedure</u>

For the purpose of this study, the following procedures were implemented:

1. Permission to conduct research at South Bay Elementary was granted by

   Principal Kathi Weight (see Appendix A).

2. A review of selected literature was conducted at Heritage University,

   South Bay Elementary School, and through internet search engines. A

   thorough report of information gathered was reported in Chapter 2 of this

   project.

3. A meeting involving all 5 fifth grade teachers at SBE was conducted to

   determine the specific reading fluency intervention to be studied.

   The intervention *6 Minute Solution* was chosen based on the availability of

   resources, and limited daily class time required by the intervention.

4. A partnership was formed with one other fifth grade class at SBE for the

   purpose of a control group.

5. The DIBELS reading fluency assessment was given to each student in both

   sample groups. The assessment was administered by classroom teachers.

   The teacher of the control group assessed the students in that group, and

the teacher from the experimental group performed the assessment for students in that group. All participants in the study read the same three reading passages, each was timed for one minute on each passage. The teacher administering the assessment strictly followed the standard DIBELS procedures when conducting the assessment. Each student was instructed to "Do your best reading for one minute". If a student became stuck on a word, the assessor would wait three seconds and then tell the student the correct pronunciation of the word. After one minute passed, the number of words read correctly on each passage was recorded. The median score was then recorded as students' Fall DIBELS Reading Fluency Score.

6. Scores from the Fall DIBELS assessment were tabulated (see Appendix B).

7. A survey of student confidence levels in regards to reading was given to the 23 students in the control group (see Appendix C).

8. A survey of student confidence levels in regards to reading was given to the 22 students in the experimental group (see Appendix D).

9. Results from both reading confidence surveys were tabulated and graphed (see Appendix E).

10. The *6 Minute Solution* program for reading fluency intervention was

implemented in the classroom of the experimental group. These

procedures were followed:

    a. All 22 students were paired according to the initial DIBELS

    fluency scores.

    b. An appropriate leveled reading passage was assigned to each

    pair according to their fluency scores.

    c. The six minute daily routine was taught to students. This routine

    involved partner one orally reading for one minute, while partner

    two recorded words not read correctly or skipped. When one

    minute had elapsed, partner two recorded the total number of

    words read correctly in that period of time. The partners switched

    roles and the process was repeated. The one minute was timed by

    the teacher and the whole class completed the steps together.

    d. The six minute routine was completed once every school day for

    11 weeks.

    e. Students read the same passage until mastery of the passage was

    demonstrated by reaching the designated reading fluency score for

the passage. Once mastery of the passage was demonstrated by

both partners, the pair moved to the next level of reading passage.

11. The DIBELS reading fluency assessment was conducted for each student
in both sample groups. The DIBELS assessment procedures were strictly
followed in the same manner as during the Fall DIBELS assessment. The
median score was recorded as the Winter DIBELS score.

12. Winter DIBELS scores were tabulated (see Appendix E).

13. A post intervention survey of reading confidence levels was given to all 23
students in the control group (see Appendix F).

14. A post intervention survey of reading confidence levels was given to all 22
students in the experimental group (see Appendix G).

15. Data from both surveys was tabulated and graphed (see Appendix H).

16. Results from the study were examined, evaluated, and conclusions were
drawn.

17. A meeting was conducted to determine the effectiveness of the program
and make a decision in regards to future implementation across the grade
level.

Treatment of Data

The data gathered from pre-intervention reading confidence survey and the post intervention reading confidence survey was calculated and examined using the Microsoft Excel program. Responses from the survey were numerically represented on a scale from 1-4, and participants were categorized as male or female. All information for the both the controlled group and experimental group were represented in Microsoft Excel Data Sheets, as well as Microsoft Excel Data Graphs.

The data gathered through the DIBELS assessment was tabulated and examined using the Microsoft Excel Program. The data was also interpreted using the STATPAK program. This program was used to find the mean, mode, and t-score of the DIBELS data gathered by the researcher.

Summary

This chapter was designed to review the methodology and treatment of data related to the September and January DIBELS reading fluency scores of two 5th grade classes at South Bay Elementary School. This chapter also reviewed the treatment and methodology of data gathered through a pre-intervention and post-intervention survey given to two 5th grade classes at South Bay Elementary. The analysis of data and findings from this study are reported in Chapter 4.

CHAPTER 4

Analysis of the Data

<u>Introduction</u>

Chapter 4 has been organized around the following topics: (a) Description of Environment, (b) Hypothesis, (c) Results of the Study, (d) Findings, and (e) Summary.

<u>Description of the Environment</u>

This project was delimited to two fifth grade classes at South Bay Elementary School in the North Thurston School District, located in Lacey, Washington. The North Thurston School District was the largest district in Thurston County, with over 14,000 students enrolled each year. There were 13 elementary schools in the North Thurston School District, and SBE was the oldest. SBE had an extremely active parent-teacher association, and a high number of parent volunteers; over 200 per year.

This study was conducted during the 2009-2010 school year. The enrollment at South Bay Elementary during the time of the study was 726 students. The ethic make-up of South Bay Elementary was as follows: American Indian/Alaskan Native 4.6%, Asian 7.1%, Black 4.0%, Hispanic 4.0%, and White 78.6%. The population of students who qualify for free and reduced lunch was

19%. During the 2009-2010 school year SBE employed 37 fulltime certificated

teachers.

In this study there were 24 students in the control class, and 23 students in

the experimental class. The controlled class was taught by a teacher with 11 years

of teaching experience, while the experimental class was taught by a teacher with

5 years of experience.   Both classes were on the same daily schedule, and had the

same number of minutes for the daily literacy block. Therefore, the amount of

time available for reading activities was equal for both classes. Both classes also

implemented the same curriculum in all subject areas.

Hypothesis

Fifth grade students who participated in the reading fluency program *6

Minute Solution*, as a supplement to the standard district curriculum, would score

higher on the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) reading

fluency assessment than fifth grade students who did not participate in the

program. Students who participated in the *6 Minute Solution* program would feel

more confident in their overall reading ability than students who did not

participate in the program.

Null Hypothesis

Fifth grade students who participated in the reading fluency program *6 Minute Solution*, as a supplement to the standard district curriculum, would not score higher on the DIBELS reading fluency assessment than fifth grade students who did not participate in the program. The confidence level of students who participated in the program *6 Minute Solution* would be the same as students who did not participate in the program.

Results of the Study

To test the hypothesis, the researcher evaluated and examined the data collected during the study, using the STATPAK program and the Microsoft Excel program. The sum, mean, mode, and t-scores of the data were calculated.

Table 1 displayed the scores of the control group on the DIBELS reading fluency assessment for both the September 2009 assessment, and the January 2010 assessment. Table one showed the scores for both assessments for each student, as well as the growth of each student from the pre-intervention assessment to the post-intervention assessment. The growth for each student represented the amount of change in the student's DIBELS score from September 2009 to January 2010. The value of growth for each student was compiled and a mean of 10.26087 was found. This mean represented the average increase in DIBELS scores for the students in the controlled group. Therefore, the average

increase in DIBELS scores for students receiving basic reading instruction and

district mandated resources was 10.26087 words read correctly per minute.

Table 1

DIBELS Reading Fluency Scores for the Controlled Group

Student	Sep-09	Jan-10	Growth
A	59	44	-15
B	109	133	24
C	168	163	-5
D	128	135	7
E	61	68	7
F	107	136	29
G	188	178	-10
H	122	140	18
I	139	167	28
J	112	120	8
K	133	138	5
L	117	128	11
M	111	128	17
N	74	68	-6
O	129	140	11
P	145	148	3
Q	174	180	6
R	75	114	39
S	139	177	38
T	142	170	28
U	137	122	-15
V	103	110	7
W	123	124	1
Sum	2795	3031	236
Mean	121.5217	131.7826	10.26087

Table 2 displayed the scores of the experimental group on the DIBELS

reading fluency assessment for both the September 2009 assessment, and the

January 2010 assessment. Table 2 showed the scores for both assessments for

each student, as well as the growth of each student from the pre-intervention

assessment to the post-intervention assessment. The growth for each student

represented the amount of change in the student's DIBELS score from September

2009 to January 2010. The value of growth for each student was compiled and a

mean of 15.18182 was found. This mean represented the average increase in

DIBELS scores for the students in the experimental group.   Therefore, the

average increase in DIBELS scores for students receiving basic reading

instruction and district mandated resources, as well as the reading intervention *6

Minute Solution,* was 15.18182 words read correctly per minute.

Table 2

DIBELS Reading Fluency Scores for the Experimental Group

Student	Sep-09	Jan-10	Growth
AA	103	114	11
BB	175	188	13
CC	176	198	22
DD	81	105	24
EE	121	150	29
FF	128	138	10
GG	173	207	34
HH	101	115	14
II	165	163	-2
JJ	115	121	6
KK	121	135	14
LL	100	107	7
MM	84	100	16
NN	168	172	4
OO	106	123	17
PP	70	76	6
QQ	123	122	-1
RR	152	179	27
SS	67	82	15
TT	126	142	16
UU	159	186	27
VV	156	181	25
Sum	2770	3104	334
Mean	125.9091	141.0909	15.18182

Figure 1 showed the difference between mean scores on the DIBELS

reading fluency assessment for the controlled group and the experimental group.

This graph showed the mean scores for September 2009 of both groups and the

mean scores for January 2010 for both groups.

Figure 1

Mean Scores on DIBELS Assessment
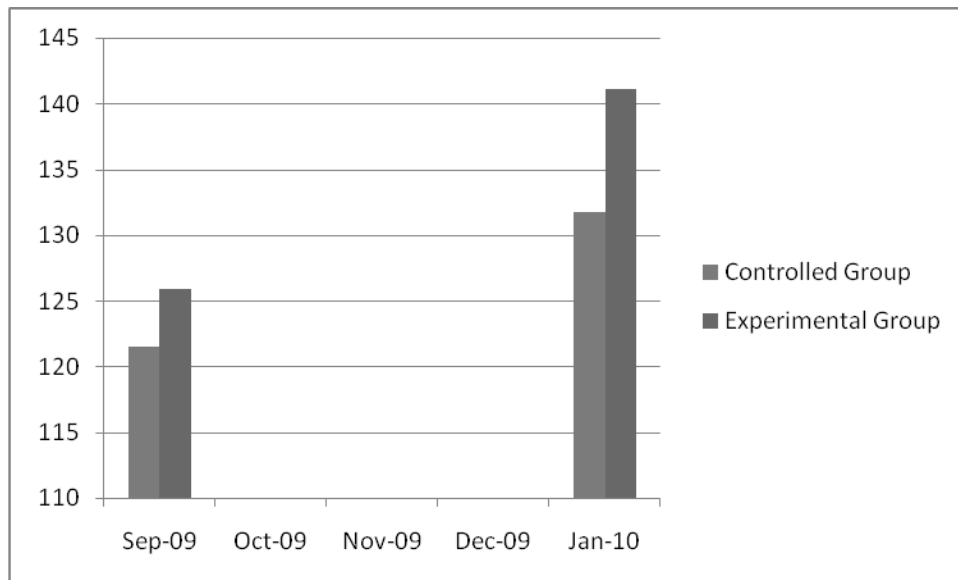
Figure 2 represented the overall average growth per student for both the controlled group and the experimental group. This growth was calculated from the difference between student scores on the September 2009 DIBELS assessment and the January 2010 DIBELS assessment.

Figure 2

Average Growth per Student on DIBELS Assessment
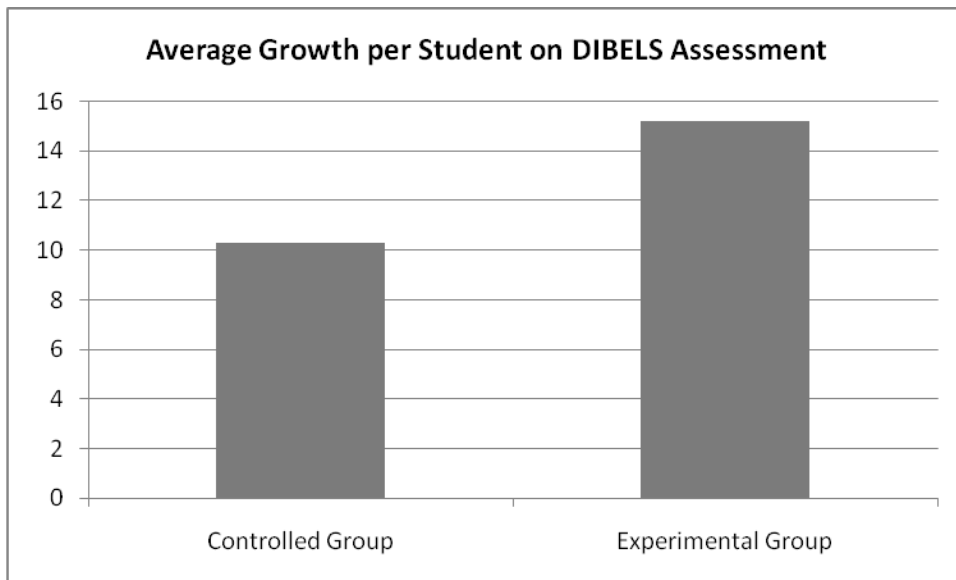
Table 3 showed the results of an Independent Groups t-test Between

Means.   The post-test data from DIBELS January 2010 assessment were used

from both the controlled group and experimental group. To calculate these

statistical values, the researcher used the STATPAK program and formulas

provided by Gay, Mills and Airasian (2006).

Table 3

Comparison of the t-score values for the Controlled and Experimental Group on

the DIBELS January 2010 Assessment

Statistic	Value
No. of Scores in Controlled Group	23
Sum of Scores in Controlled Group	3031
Mean Score of Controlled Group	131.7826
No. of Scores in Experimental Group	22
Sum of Scores in Experimental Group	3104
Mean Score of Experimental Group	141.0909
t-value	1.083
Two-tailed Probability	0.4017
Degrees of Freedom	43
Distribution of t at $\alpha= 0.05$	2.021

Figure 3 represented data from Survey 1 and Survey 2 given to the controlled group (See Appendix C). All the scores of the survey were tabulated using a scoring system of 1-4. A score of one represented an answer of "Strongly Disagree". A score of two represented an answer of "Disagree". A score of three represented an answer of "Agree". A score of four represented an answer of "Strongly Agree". Figure 3 represented the mean score for each of the 10 questions on the pre-intervention and post-intervention survey.

Figure 3
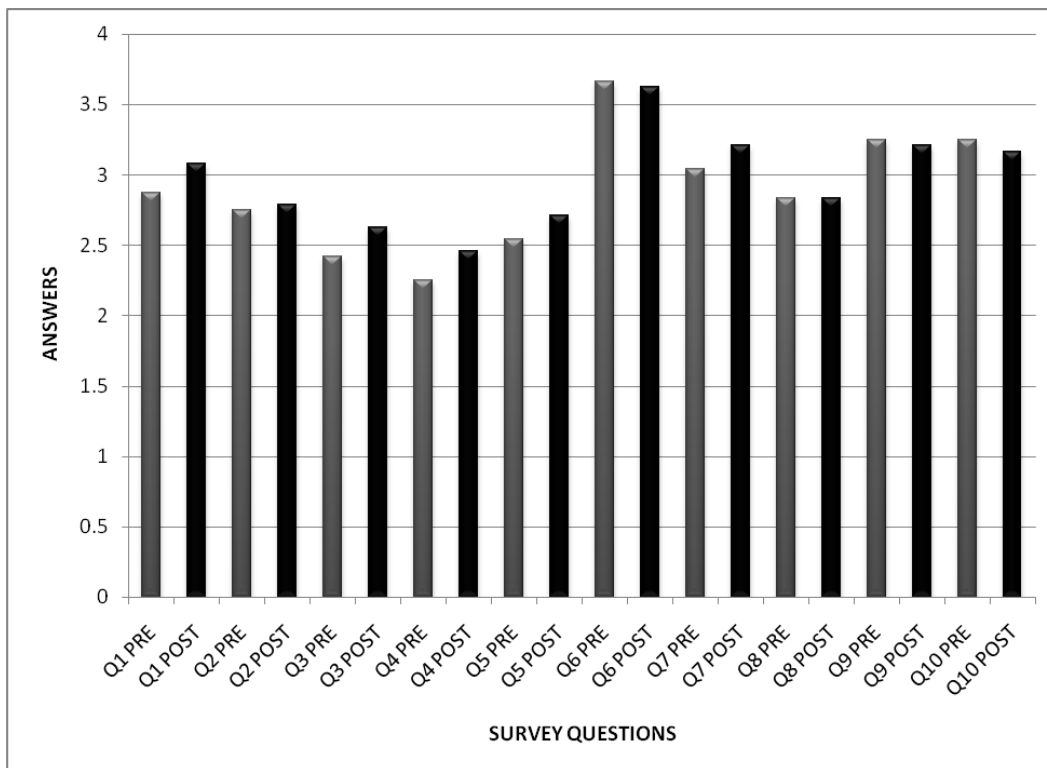
Figure 4 represented data from Survey 1 and Survey 2 given to the

experimental group (See Appendix C). All the scores of the survey were

tabulated using a scoring system of 1-4. A score of one represented an answer of

"Strongly Disagree". A score of two represented an answer of "Disagree". A

score of three represented an answer of "Agree". A score of four represented an

answer of "Strongly Agree". Figure 4 represented the mean score for each of the

10 questions on the pre-intervention and post-intervention survey.

Figure 4
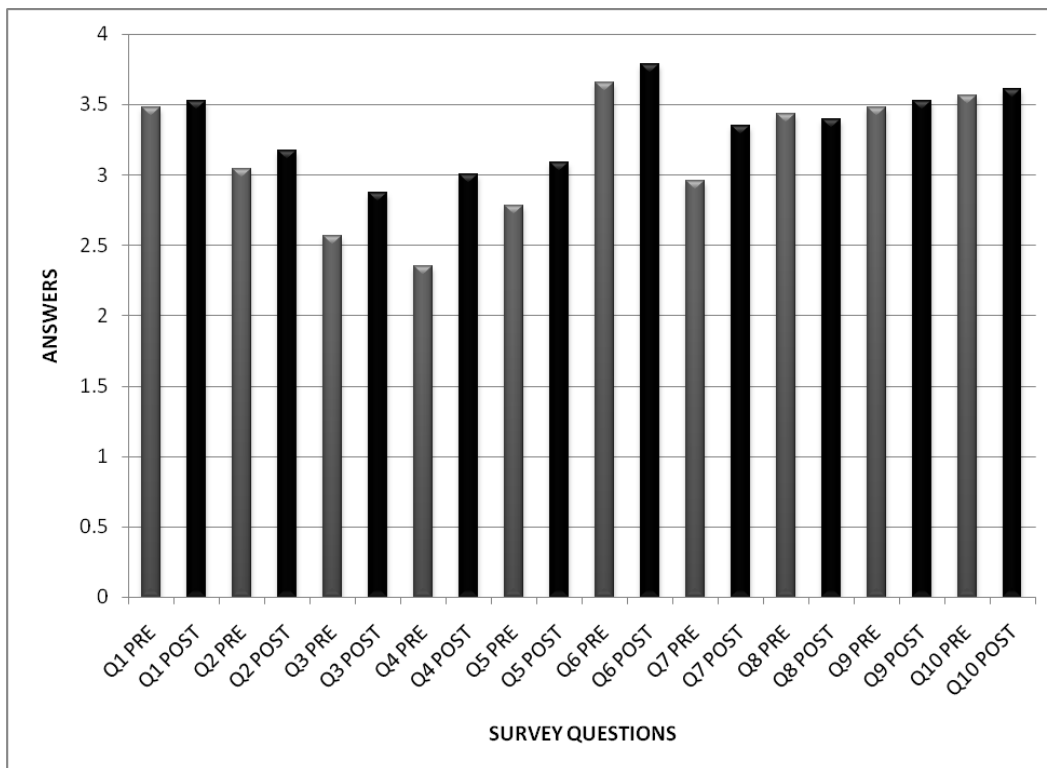
Figure 5 represented students' scores on post-survey question number 4.

This survey question asked students to rate their feelings in regards to the

following statement: "I feel comfortable when asked to read in front of the class".

This question was a significant indicator of the confidence level of students in

regards to their reading ability. G1 represented survey answers from the

experimental group and G2 represents survey answers from the controlled group.

Figure 5 showed the number of students from each group that chose each answer

for question number 4.

Figure 5
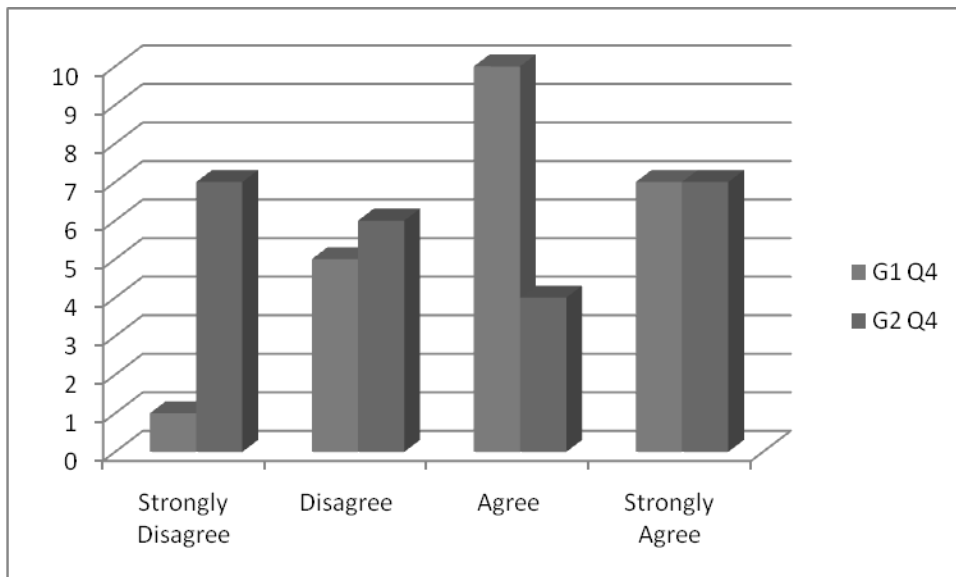
Figure 6 represented students' scores on post-survey question number 7.

This survey question asked students to rate their feelings in regards to the

following statement: "I feel I am a strong reader". This question was a significant

indicator of the confidence level of students in regards to their reading ability. G1

represented survey answers from the experimental group and G2 represents survey

answers from the controlled group. Figure 6 showed the number of students from

each group that chose each answer for question number 7.

Figure 6
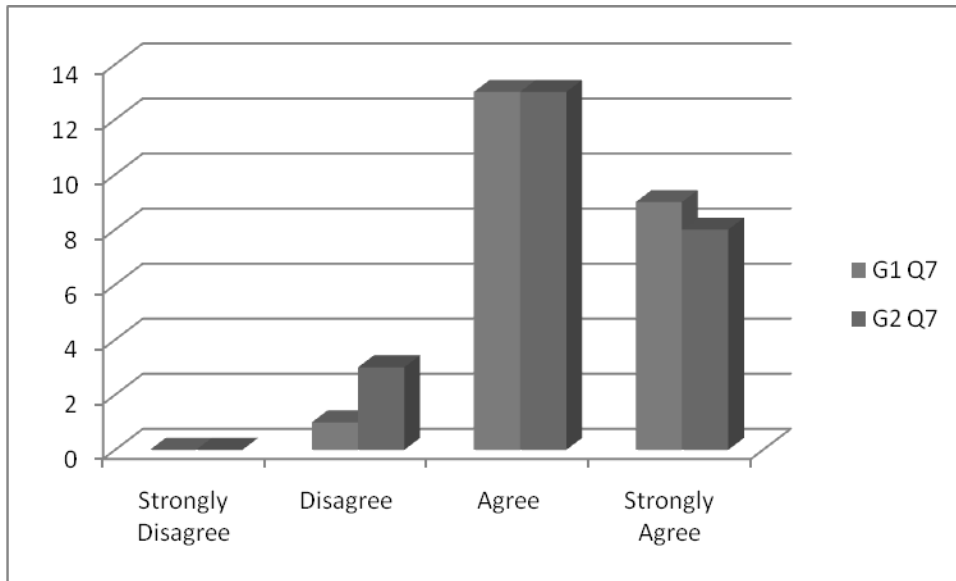
Table 1 demonstrated the DIBELS reading fluency scores for each student in the controlled group. Table 1 displayed the Fall 2009 DIBELS scores, the Spring 2010 DIBELS scores, and the growth of each student from Fall 2009 to Spring 2010. Table 2 demonstrated the DIBELS reading fluency scores for each student in the experimental group. Table 2 displayed the Fall 2009 DIBELS scores, the Spring 2010 DIBELS scores, and the growth of each student from Fall 2009 to Spring 2010. Figure 2 represented the overall average growth in DIBELS scores per student for both the controlled group and the experimental group. The average growth for the controlled group was 10.26087, while the average growth for the experimental group was 15.18182. Therefore, the experimental group demonstrated a growth of 4.926087 more than the controlled group. This growth rate resulted in a t-value of 1.083. The t-value of 1.083 did not meet the t-value of 2.021 required to prove the hypothesis. Thus the hypothesis that fifth grade students who participated in the reading fluency program *6 Minute Solution*, as a supplement to the standard district curriculum, would score higher on the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) reading fluency assessment than fifth grade students who did not participate in the program, was not supported by data. The null hypothesis that fifth grade students who

participated in the reading fluency program *6 Minute Solution*, as a supplement to the standard district curriculum, would not score higher on the DIBELS reading fluency assessment than fifth grade students who did not participate in the program, was accepted.

Based on data collected through the pre and post reading surveys, certain findings were supported through the analysis of data. These findings were listed:

1. 5th grade students believed their families valued reading.

2. Most 5th grade students read for pleasure.

3. Most 5th grade students did not feel comfortable partner reading when their teacher assigned the partner, however, most 5th grade students felt comfortable partner reading when they chose their own partner.

4. 5th grade students felt they would benefit from extra practice in reading fluency.

The findings from the reading survey did not prove the hypothesis that students who participated in the *6 Minute Solution* program would feel more confident in their overall reading ability than students who did not participate in the program. The findings were inconclusive.

Discussion

This study resulted in findings that were consistent with the expectations of the author. The hypothesis of the study was that the experimental group would on average show more growth on the DIEBELS assessment than the controlled group. The results matched this trend of expectation. However, the results were not strong enough to statistically accept the hypothesis and make generalizations from the data.

It is possible that if the study were conducted over a longer period of time, such as the entire school year instead of 11 weeks, a larger difference in growth may have occurred. The experimental group may have continued to make more growth than the controlled group and thus, provided data able to support the hypothesis.

In a review of the literature, most studies discussed were conducted through a matched experimental design. Therefore, the method of the experiments eliminated uncontrolled variables that were present in this study, such as different beginning oral reading fluency rates, gender, special education services, and age. In the study conducted by Martens and Eckert (2007), the participants in the controlled group and experimental group were matched according to each of the previously mentioned attributes. The study conducted by Martens and Eckert (2007) provided conclusive evidence to support the assumption that repeated

reading programs improved the reading fluency rates of students. The study

described in this paper was a nonequivalent control group design, thus having

more uncontrolled variables present. This could be one factor that contributed to

a difference in outcomes between the two studies.

<u>Summary</u>

This chapter was designed to analyze the data and identify the findings.

From the data, the hypothesis was not supported and the null hypothesis was

accepted. The experimental group showed more growth in reading fluency than

the controlled group, but the difference was not significant. The difference in

growth could have been attributed to other variables in the study that were not

controlled. Therefore, the hypothesis could not be supported by data. Chapter 5

will summarize the study, draw conclusions, and make recommendations.

CHAPTER 5

Summary, Conclusions and Recommendations

<u>Introduction</u>

This chapter has been organized around the following topic: (a) introduction, (b) summary, (c) conclusions, (d) recommendations.

<u>Summary</u>

The Fourth Grade Reading WASL scores of fifth-grade students at South Bay Elementary were lower than the scores of the previous 3 classes. This brought the attention of the fifth-grade staff to the area of reading, and to the task of finding a supplement to the curriculum that would help students improve in the area of reading. The purpose of this study was to determine if the reading fluency intervention of *6 Minute Solution* increased student achievement on the DIBELS reading fluency assessment. A review of the literature showed a direct correlation between student reading fluency scores and overall reading achievement.

Two fifth-grade classes were chosen to participate in the study. One class was the controlled group and received the standard district reading curriculum. The other class was the experimental group, and this group received the standard district reading curriculum, as well as the intervention *6 Minute Solution* every day for an 11 week period. Both groups were given the DIBELS fluency

52

assessment prior to the 11 week period, and again at the conclusion of the 11

week period. The DIBELS fluency scores were the measure of growth used to

determine if the hypothesis could be proven or rejected.

Conclusions

      After conducting the study, gathering the data, and evaluating the

implications, the data did not support the hypothesis. The reading fluency

program *6 Minute Solution* did not result in significant gains in reading fluency

scores on the DIBELS assessment.

      Table 1 demonstrated the DIBELS reading fluency scores for each student

in the controlled group. Table 2 demonstrated the DIBELS reading fluency scores

for each student in the experimental group. Figure 2 represented the overall

average growth in DIBELS scores per student for both the controlled group and

the experimental group. The average growth for the controlled group was

10.26087, while the average growth for the experimental group was 15.18182.

Therefore, the experimental group demonstrated a growth of 4.926087 more than

the controlled group. This growth rate resulted in a t-value of 1.083. While the

experimental group showed more growth than the controlled group, the t-value of

1.083 did not meet the t-value of 2.021 required to prove the hypothesis.

Recommendations

The literature discussed in this study indicated the direct correlation between reading fluency and overall reading achievement. Various studies have proven that when student reading fluency is improved, overall reading achievement is improved.

Although the experimental group in this study did not show a significant amount of growth more than the controlled group, it did show more growth. It is the recommendation of the researcher to conduct a similar study for one full school year, and increase the size of the controlled group and the experimental group. Two fifth-grade classes could be the experimental group and two fifth grade classes could be the controlled group. Over the course of an entire school year, it is possible that the difference in growth between the two groups could continue to grow, resulting in conclusive data. Increasing the sample size will also help make the results more valid.

REFERENCES

Adams, G.N. & Brown, S.M. (2007). The Six Minute Solution: a reading fluency

program (intermediate level). Longmont, Colorado: Sopris West.

Applegate, A.J., Applegate, M.D., & Modla, V.B. (2009). "She's my best reader

she just can't comprehend": Studying the relationship between fluency and

comprehension. The Reading Teacher, 62 (6), 512-521.

Calhoon, M.B. & Otaiba, S.A. (2006). Improving reading skills in predominately

hispanic title 1 first-grade classrooms: The promise of peer assisted

learning strategies. Learning Disabilities Research and Practice, 21 4, 261-

272.

Eckert, T. & Martens, B. (2007). Effects of a fluency building program on the

reading performance of low-achieving second and third grade students.

Journal of Behavioral Education, 16, 39-54.

Griffith, L.W. & Rasinski, T.V. (2004). A focus on fluency: How one teacher

incorporated fluency with her reading curriculum. Reading Teacher, 58

(2), 126-137.

Hudson, R., Lane, H. & Pullen, P. (2005). Reading fluency assessment and

instruction: What, why, and how? The Reading Teacher, 58 (8), 702-714.

Hughes, C. & Therrien, W.J. (2008). Comparison of repeated readings and

    question generation on students' reading fluency and comprehension.

    <u>Learning Disabilities: A Contemporary Journal 6</u> (1), 1-16.

Riedel, B.W. (2007). The relation between DIEBELS reading comprehension, and

    vocabulary in urban first grade students. <u>Reading Research Quarterly, 42</u>

    (4) 546-567.

Sanders, E.A. & Vadasy, P.F. (2008). Benefits of repeated reading intervention for

    low-achieving fourth-and fifth-grade students. <u>Remedial and Special</u>

    <u>Education, 29</u> (4), 235-249.

Wood, D. E. (2006). Modeling the relationship between oral reading fluency and

    performance on a statewide reading test. <u>Educational Assessment, 11</u> (2),

    85-104.

DIBELS Data System Website, 2010. (https://dibels.uoregon.edu/samples/index).

State of Washington Office of the Superintendent of Public Instruction (2010).

    www.k12.wa.us

Wahl, M. (2007). Six minute solution. <u>Florida Center for Reading Research,</u>

    www.fcrr.org

Appendix A

Permission Slip

Appendix B

Tabulated DIBELS Scores- Fall 2009

Appendix C

Pre-Study Reading Survey 1- Control Group

Appendix D

Pre-Study Reading Survey 2- Experimental Group

Appendix E

Tabulated Pre-Study Reading Survey Results

Appendix F

Tabulated DIBELS Scores- Spring 2010

Appendix G

Post-Study Reading Survey 1- Control Group

Appendix H

Post-Study Reading Survey 2- Experimental Group

Appendix I

Tabulated Post-Study Survey Results

Circle one: Boy   Girl

The purpose of this survey is to find out how you feel about your reading skills right now.   Read each question carefully and then <u>circle</u> the answer that best shows the way you feel about that question right now. Your choices for answers are as follows:

Strongly Disagree   **Disagree**   **Agree**   **Strongly Agree**

1. My family believes reading is important.

Strongly Disagree   **Disagree**   **Agree**   **Strongly Agree**

2. I read for pleasure.

Strongly Disagree   **Disagree**   **Agree**   **Strongly Agree**

3. I like to share books with my friends.

Strongly Disagree   **Disagree**   **Agree**   **Strongly Agree**

4. I feel comfortable when asked to read in front of the class.

Strongly Disagree   **Disagree**   **Agree**   **Strongly Agree**

5. I feel comfortable partner reading when the teacher assigns my partner.

Strongly Disagree   **Disagree**   **Agree**   **Strongly Agree**

6. I feel comfortable partner reading when I choose my own partner.

Strongly Disagree   **Disagree**   **Agree**   **Strongly Agree**

7. I feel I am a strong reader.

Strongly Disagree   **Disagree**   **Agree**   **Strongly Agree**

8.   I feel I would benefit from extra practice in reading fluency.

Strongly Disagree   **Disagree**   **Agree**   **Strongly Agree**

9. I feel reading is important to my academic success.

Strongly Disagree   **Disagree**   **Agree**   **Strongly Agree**

10.   I can give 100% effort to increase my reading ability.

Strongly Disagree   **Disagree**   **Agree**   **Strongly Agree**

Circle one: Boy   Girl

The purpose of this survey is to find out how you feel about your reading skills right now. Read each question carefully and then <u>circle</u> the answer that best shows the way you feel about that question right now. Your choices for answers are as follows:

Strongly Disagree   Disagree   Agree   Strongly Agree

1. My family believes reading is important.

Strongly Disagree   Disagree   Agree   Strongly Agree

2. I read for pleasure.

Strongly Disagree   Disagree   Agree   Strongly Agree

3. I like to share books with my friends.

Strongly Disagree   Disagree   Agree   Strongly Agree

4. I feel comfortable when asked to read in front of the class.

Strongly Disagree   Disagree   Agree   Strongly Agree

5. I feel comfortable partner reading when the teacher assigns my partner.

Strongly Disagree   Disagree   Agree   Strongly Agree

6. I feel comfortable partner reading when I choose my own partner.

Strongly Disagree   **Disagree**   **Agree**   **Strongly Agree**

7. I feel I am a strong reader.

Strongly Disagree   **Disagree**   **Agree**   **Strongly Agree**

8. I feel reading is important to my academic success.

Strongly Disagree   **Disagree**   **Agree**   **Strongly Agree**

Reading Fluency Scores for Controlled Group

Student	Sep-09	Jan-10	Growth
A	59	44	-15
B	109	133	24
C	168	163	-5
D	128	135	7
E	61	68	7
F	107	136	29
G	188	178	-10
H	122	140	18
I	139	167	28
J	112	120	8
K	133	138	5
L	117	128	11
M	111	128	17
N	74	68	-6
O	129	140	11
P	145	148	3
Q	174	180	6
R	75	114	39
S	139	177	38
T	142	170	28
U	137	122	-15
V	103	110	7
W	123	124	1
Sum	2795	3031	236
Mean	121.5217	131.7826	10.26087

	A	B	C	D	E	F	G	H	I	J	K	L
1	Reading Skills Confidence Survey: Controlled Group											
2	Students who participate in the 6 Minute Solution program will feel more confident in their overall reading ability than students who do n											
3	Key	4-Strongly Agree		3- Agree		2-Disagree		1- Strongly Disagree				
4												
5	Student	MALE	FEMALE	Q1 PRE	Q1 POST	Q2 PRE	Q2 POST	Q3 PRE	Q3 POST	Q4 PRE	Q4 POST	Q5 PRE
6	AA	X		3	3	3	3	4	3	2	2	4
7	BB		X	3	3	2	1	3	2	1	1	3
8	CC		X	3	3	1	2	2	2	4	4	4
9	DD		X	4	4	3	3	3	4	1	1	3
10	EE	X		2	3	4	4	2	2	1	1	1
11	FF	X		4	4	2	3	3	3	4	4	3
12	GG		X	3	3	4	4	2	3	1	2	2
13	HH	X		3	3	4	3	3	3	4	4	4
14	II		X	2	3	3	3	3	3	4	4	4
15	JJ	X		3	3	1	2	2	2	3	3	3
16	KK		X	1	2	3	3	3	4	1	1	2
17	LL		X	4	3	3	3	1	2	1	1	1
18	MM		X	3	3	3	3	1	2	2	3	2
19	NN		X	3	3	3	3	2	3	2	2	2
20	OO	X		4	4	4	3	2	2	1	1	2
21	PP	X		3	4	3	3	3	3	3	3	3
22	QQ		X	0	3	1	2	2	3	1	1	1
23	RR		X	3	3	3	3	3	3	1	2	2
24	SS	X		2	1	3	3	2	2	3	4	3
25	TT		X	3	3	3	3	2	2	2	2	3
26	UU	X		4	4	2	2	2	2	3	4	4
27	VV	X		4	3	2	2	2	2	4	3	3
28	WW	X		3	3	3	3	3	3	1	2	1
29	XX	X		2	3	3	3	3	3	4	4	1
30				Q1 PRE	Q1 POST	Q2 PRE	Q2 POST	Q3 PRE	Q3 POST	Q4 PRE	Q4 POST	Q5 PRE
31	Mean			2.875	3.083333	2.75	2.791667	2.416667	2.625	2.25	2.458333	2.541667
32	Total	12	12	69	74	66	67	58	63	54	59	61

85

	M	N	O	P	Q	R	S	T	U	V	W
1											
2	ot participate in the program.										
3											
4											
5	Q5 POST	Q6 PRE	Q6 POST	Q7 PRE	Q7 POST	Q8 PRE	Q8 POST	Q9 PRE	Q9 POST	Q10 PRE	Q10 POST
6	4	4	4	3	4	4	4	4	4	3	3
7	3	3	3	2	2	2	2	2	2	2	2
8	4	4	4	3	3	1	2	2	3	4	4
9	2	4	4	3	4	2	2	2	2	2	2
10	1	2	2	4	4	2	2	3	4	4	3
11	2	4	4	4	4	2	2	4	4	4	4
12	3	4	4	3	3	3	3	3	4	3	3
13	4	4	4	3	3	3	3	3	4	2	3
14	4	4	4	4	3	3	3	3	4	3	3
15	3	4	4	3	3	2	3	4	3	3	3
16	2	4	4	4	4	2	3	3	3	3	3
17	1	4	4	3	3	3	3	4	3	3	3
18	3	4	4	4	4	4	3	4	3	3	3
19	3	3	3	3	4	3	3	3	4	3	4
20	3	4	4	2	2	4	3	4	4	3	3
21	3	3	3	3	3	3	2	3	3	3	3
22	1	4	4	2	2	4	4	4	4	4	4
23	3	4	4	2	3	3	3	4	3	4	3
24	3	2	2	3	3	2	3	3	2	4	3
25	2	4	4	3	3	4	3	4	3	4	3
26	3	4	4	3	3	2	3	3	2	3	3
27	4	4	4	3	3	3	3	4	3	4	4
28	2	3	3	2	3	4	3	3	3	3	3
29	2	4	3	4	4	3	3	2	3	4	4
30	Q5 POST	Q6 PRE	Q6 POST	Q7 PRE	Q7 POST	Q8 PRE	Q8 POST	Q9 PRE	Q9 POST	Q10 PRE	Q10 POST
31	2.708333	3.666667	3.625	3.041667	3.208333	2.833333	2.833333	3.25	3.208333	3.25	3.166667
32	65	88	87	73	77	68	68	78	77	78	76

DIBELS scores for controlled group: matched pairs t-test between means

Var 1: Pretest: Mean = 121.522   Unbiased SD (standard deviation) = 33.244

Var 2: Posttest: Mean = 131.783   Unbiased SD = 35.422

t-statistic = 3.178

Degrees of freedom = 22

Two-tailed probability = .0044

DIBELS scores for experimental group: matched pairs t-test between means

Var 1: Pretest: Mean = 125.909   Unbiased SD = 35.101

Variable 2: Posttest: Mean = 141.091   Unbiased SD = 38.287

t-statistic = 7.262

Degrees of freedom = 21

Two-tailed probability = .0000

Matched pairs t-test between means of controlled group and experimental group on the post-test

An Independent groups t-test between means (for the pre-test)

t-statistic 0.431

Degrees of freedom 43

Two tailed probability .6689

An Independent groups t-test between means (for the post-test)

t-statistic 0.847

Degrees of Freedom 43

Two-tailed probability .4017

a = .05

Distribution of t for a sample group of 40 (degrees of freedom at 40) at an **a of .05 = 2.021

*I need to use a one-tailed test (the difference will only occur in one direction)

Comparison of the t-score values for the Controlled and Experimental Group on the DIBELS Post-Test

Statistic	Value
No. of Scores in Controlled Group	23
Sum of Scores in Controlled Group	3031
Mean Score of Controlled Group	131.7826
No. of Scores in Experimental Group	22
Sum of Scores in Experimental Group	3104
Mean Score of Experimental Group	141.0909
t-value	0.847
Two-tailed Probability	0.4017
Degrees of Freedom	43
Distribution of t at α= 0.05	2.021