

Increasing Fluency and Comprehension through Repeated Reading

A Special Project

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Dr. Robert P. Kraig

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FACULTY APPROVAL

Increasing Fluency and Comprehension through Repeated Reading

A Master's Special Project

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ABSTRACT

Increasing Fluency and Comprehension through Repeated Reading

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This study was conducted to determine if an increase in reading fluency practice would result in higher fluency scores on the DIBELS fluency test and higher comprehension on the weekly Harcourt Trophies comprehension tests. This study took place at Bridgeport Elementary, a small rural school located in Northeastern Washington. The school had 398 students and was 84.7% free and reduced lunch. In order to raise reading comprehension and consequently reading scores on the WASL, an intervention was needed. The intervention of Repeated Reading was introduced. Student survey results indicated students were more confident after using the intervention. The statistical results indicated that although the student's fluency increased significantly with practice, their comprehension did not show the same gains.

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CHAPTER 1

Introduction

Background for the Project

In 2001 President George W. Bush signed a law called No Child Left Behind (NCLB) which was to raise the country's educational standards by setting the bar higher and solidifying expectations as a nation. Each state was to come up with how they would meet these new expectations that were now mandated by law. Washington State came up with the Washington Assessment of Student Learning or the WASL. This test was originally given at the fourth, seventh, and tenth grades, testing in reading, math, writing, and listening. The listening portion was later dropped and science was added. The grades tested in were also added as third through eighth graders and tenth graders were tested annually.

(OSPIwww.k12.wa.assessment/default.aspx).

If students did not make a specified amount of growth on their WASL tests from one year to the next, adequate yearly progress (AYP), the school was put on probation. If the school continued to not make AYP for two consecutive years, they were put on step 1. This step involved parents having had the option to send their children to another school in the district that had made AYP. AYP Schools

also received funds for school improvements. There also needed to be a revision of the school improvement plan. If AYP was not met for three years in a row, schools were placed on step 2. This involved there needing to be a change in the curriculum. Interventions were continued so that students received more practice and thus mastery over weak areas. Parents again had a choice of which school to place their child.

Reading was found to be a crucial element in academic success across the curriculums. Therefore, this study focused on the improvement of reading, specifically in the area of reading fluency. Fluency was picked because there seemed to be a correlation between reading fluency and reading comprehension as stated by Ardoin, Williams, Klubnik, and McCall (2009). Reading fluency was composed of three main elements; word reading accuracy, reading rate, and prosodic, which involved the pitch, stress patterns, and expression in reading (Hudson, Lane, and Pullen, 2005). Repeated Reading (RR) was chosen as the intervention to improve both reading rate and word accuracy. Proof of improvement in word accuracy and reading rate was to be tested with the DIBELS fluency test. Proof of improved comprehension was to be tested on the comprehension tests at the end of each week's story in the Harcourt reading series that was used by the control group.

Statement of the Problem

Bridgeport Elementary School, a small rural school located in North Central Washington, had seen their scores on the Washington Assessment of Student Learning (WASL) fluctuate the past three years. The WASL tested four areas of study; reading, writing, math, and science. The reading scores for fourth graders had been at 63% in 2006-2007, then they had dropped to 35.3% in 2007-2008, then they went back up to 64.8% in 2008-2009. Math had continued to decrease all three years, 37% in 2006-2007, 33.3% in 2007-2008 and 25.9% in 2008-2009. Writing had stayed about the same all three years; 43.4, 43.1% and 44.4%. Science went from 37.5% in 2007-2008, to 7.7% in 2008-2009. This had resulted in Bridgeport not reaching their required adequate yearly progress (AYP) as required by the No Child Left Behind Act (NCLB) of 2001. Since AYP had not been met for two years in a row, the school was placed on step two as required by NCLB regulations.

The demographics of Bridgeport School District in the 2008-2009 school year were as follows: The district had a total enrollment of 780 students. The district was 87.4% Hispanic, 11.4% White, 0.4% Black, and 0.8% American Indian/Alaskan Native. There were more males (54.5%) than females (45.5%). The on-time graduation rate was 78.1% and the dropout rate was at 4.5%.

Language was also a big problem. Since Bridgeport had a very high Hispanic population, many of those students (44.6%) were in the Transitional Bilingual program or the Migrant program (20.1%). Because many of the parents did not understand or speak fluently in the English language and many were under educated themselves, parents could not help their children with the homework. The school also had 11.8% of its students in the Special Education program.

Another prevalent problem was poverty. The school was located in a very low socio-economical area. The school decided to go school wide with their free breakfast and lunch program, with 87.5% of their children qualifying for that program. They also decided to offer free breakfast and lunch during the summer for anyone up to 18 years of age.

This researcher decided to focus on reading for this study because the ability to read, and read well, was a critical element which affected all other subject areas. The specific focus of this study was on reading fluency. In 1995 the National Assessment of Educational Progress (NAEP) did a study which found a correlation between how fast a person reads and their ability to comprehend what they had read. (www.learningrx.com/reading-fluency.htm)

This study tested the hypothesis that students who received extra fluency instruction would score higher in fluency and comprehension on the DIBELS and

Harcourt Trophies reading tests, than students who did not receive the extra fluency instruction. It was expected that the students who had received the extra weekly fluency practice would have felt more confident and comfortable about taking the DIBELS and Harcourt Trophies reading tests than those who did not.

Purpose of the Project

The purpose of this study was to determine if the practice of reading fluency was a viable intervention to increase student achievement on both the DIBELS and Harcourt Trophies reading comprehension test. It was also to determine if the students' confidence in their test taking ability would increase with the fluency practice.

Delimitations

This study, which was conducted during the 2009-2010 school year, involved 18 fourth grade students, 10 boys and 8 girls, from Bridgeport Elementary School located in Bridgeport, Washington. The class was a mixture of Anglo and Hispanic students, with most of the Hispanic student speaking Spanish at home and learning English because they lived in and went to school in America and were considered 1st generation English speakers. All students received free breakfast and lunch because of the high poverty rate in the district.

The class as a whole did not receive any special fluency interventions the first half of the year, and then were given the specified reading intervention the last half of the year. The assessment tools used to see if there was an increase in fluency and reading comprehension between the first half of the year when compared to the second half of the year, were the DIBELS fluency test and the Harcourt Trophies comprehension tests.

Assumptions

There were specific things the researcher assumed when conducting this study. One was that the students tried their hardest by giving full effort on the DIBELS fluency test, the three times it was given; the pretest and post test the first half of the year and post test the last half of the year. It was also assumed that the students gave their full effort while practicing their repeated readings, which was the provided fluency intervention, the last half of the year. Another assumption was that the students gave full effort while taking their Harcourt Trophies reading comprehension test. Also assumed was that all students answered their intervention survey honestly. Consideration was also given to the fact that reading rate or speed was influenced by the type of literature being read. When reading nonfiction or informational articles, the reading rate was slower than when reading fiction or for entertainment. The last consideration was that as the year

progressed the Harcourt Trophies reading series got harder. By the last quarter the students in this study were reading above their grade level, and were in a fifth grade reader.

Hypothesis

Students who receive Repeated Reading fluency instruction will score significantly higher on their second semester post DIBELS fluency test than students who did not receive Repeated Reading fluency instruction. Students who receive Repeated Reading fluency instruction will score significantly higher on their second semester Harcourt Trophies comprehension tests than students who did not receive Repeated Reading fluency instruction. Students who receive the fluency practice of Repeated Reading will report being more confident taking their DIBELS and Harcourt Trophies reading tests than students who did not receive the fluency practice of Repeated Reading.

Null Hypothesis

Students who receive Repeated Reading fluency instruction will not score significantly higher second semester on their post DIBELS fluency test than students who did not receive Repeated Reading fluency instruction. Students who receive Repeated Reading fluency instruction will not score significantly higher on their second semester Harcourt Trophies comprehension tests than students

who did not receive Repeated Reading fluency instruction. Students who receive fluency practice will not report being any more confident taking their DIBELS and Harcourt Trophies reading tests than students who did not receive fluency practice.

Significance of the Project

The purpose of this study was to find factual data to support the hypothesis that the practice of fluency through a designated intervention would increase both fluency, as tested by the DIBELS, and would also increase reading comprehension, as tested by the Harcourt Trophies comprehension tests. This study used repeated reading as the fluency intervention to determine if it was considered a best practice in improving reading fluency and comprehension. The results of this study would influence which reading interventions Bridgeport Elementary School would utilize in order to see the greatest gains in their students' reading comprehension, as measured by the WASL.

Procedure

For the purpose of this study the following procedures were used.

1. Permission to conduct this research study with students from Bridgeport Elementary School was obtained from the principal, Michael Porter (see Appendix A).

2. Survey was developed and permission to administer was granted by Michael Porter (see Appendix B).
3. Research was conducted to find the best reading fluency intervention.
4. Repeated reading was chosen by the researcher as the fluency intervention.
5. Permission was granted by Principal Michael Porter to use the repeated reading intervention (see Appendix C).
6. A DIBELS test was given to all students at BES the third and fourth week of September 2009, by the Reading Coach.
7. The scores were tabulated for Mrs. Sanon's reading switch class (see Appendix D).
8. Students were taught reading in their specified reading groups with no specific interventions, for the first semester.
9. Weekly scores on the Harcourt Trophies story comprehension test were kept and tabulated (see Appendix E).
10. Students were given a DIBELS test at the end of the first semester.
11. Scores were tabulated and compared to previous test scores (see Appendix F).
12. Reading intervention, repeated reading, started in the fourth grade classroom on January 25, 2010.
13. Repeated reading was used daily during the Harcourt Trophies reading

instruction time.

14. Weekly Harcourt Trophies comprehension tests were taken and tabulated (see Appendix G).
15. At the end of the second semester another DIBELS test was given.
16. Scores were tabulated and compared to mid-year scores (see Appendix H).
17. Survey was given to fourth grade students to assess how they felt about reading and to determine if their confidence level had increased from the beginning of the year (see Appendix I).
18. Results from the study were examined, t- test tabulated, and conclusions were Drawn (see Appendix J).
19. Meeting with Michael Porter and Reading Team was conducted to see if the intervention of repeated reading would be implemented school wide.

Definition of Terms

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

Adequate Yearly Progress. The specified percentage amount a school needed to improve on their WASL scores from the previous year.

Dynamic Indicators of Basic Early Literacy Skills. An assessment given to primary students to measure fluency, phonemic awareness, phonics, and comprehension.

Elementary and Secondary Education Act. Mandates the testing of students to close the gap between the academic achievement of poverty-classified students and non-poverty students.

Migrant Education Program. Established under ESEA as reauthorized under NCLB (2001), receives a federal grant to establish or improve, directly or through sub-grants to local operating agencies, programs of education for migratory children.

National Assessment of Educational Progress. The only nationally representative and continuing assessment of what America's students know and can do in various subject areas.

National Reading Panel. A United States government body, framed in 1997 at the request of Congress. They were to review research on how children learn to read and determine which methods of teaching reading are most effective based on the research evidence.

National Report Card. States how individual states are measuring up to each other and the Nation's standards.

No Child Left Behind. A law signed in 2001 by President Bush to raise the country's educational standards.

Office of Superintendent of Public Instruction. A report card on how Washington schools are doing.

Reading fluency. The ability to read at a rapid rate, with word accuracy, and with prosodic (expression). (Hudson, Lane, and Pullen , 2005).

Reading Switch. Students walk to a reading group at their particular reading level.

Repeated Reading. The reading of a passage a number of times.

Transitional Bilingual. Based on an educational theory that states children can most easily acquire fluency in a second language by first acquiring fluency in their native language.

Washington Assessment of Student Learning. Washington State's state wide test in response to the NCLB law of 2001.

Acronym

APY. Adequate Yearly Progress.

BES. Bridgeport Elementary School.

CBM. Curriculum-Based Measurement

DIBELS. Dynamic Indicators of Basic Early Literacy Skills.

ESEA. Elementary and Secondary Education Act.

NAEP. National Assessment of Educational Progress

NCLB. No Child Left Behind.

NRP. National Reading Panel

OSPI. Office of Superintendent of Public Instruction..

RR. Repeated Reading.

WASL. Washington Assessment of Student Learning.

CHAPTER 2

Review of Selected Literature

Introduction

This chapter has been organized around the following topics: (a) No Child Left Behind (NCLB) /WASL/AYP, (b) Reading Measurements, (c) Fluency/Repeated Reading, (d) Reading and Cognitive Ability, and (e) Summary.

No Child Left Behind (NCLB) / WASL/AYP

The NCLB act of 2001 was a reauthorization and amendment of federal educational programs that were established under the Elementary and Secondary Education Act (ESEA) of 1965. The bill was intended to make the United States more accountable in the teaching of the core academics such as reading, writing, and math. It was to uniform standards nation wide and while it had focused on all students, it specifically targeted groups of students that had normally been left behind. Each state was to come up with its own assessment, but each had to have four main areas addressed in its chosen assessment: accountability, flexibility, research-based education, and parent options.

Washington State chose to develop a state wide test called the Washington Assessment of Student Learning or WASL. This test measured a students reading,

math, writing, and later science. There were nine specifically targeted groups or categories that the WASL targeted. These included: all students, American Indian/Alaskan Native students, Asian/Pacific Islander students, black students, Hispanic students, white students, English-language learners, students with disabilities, and low-income students.

The WASL tested different subjects on different years. In 1996-1997 this test was only given in the fourth grade, testing reading, writing, math, and listening. The next year the seventh grade was added in taking all four parts of the test. In 1998-1999 the tenth grade was added to take all four tests. The listening test was thrown out, and in 2002-2003 science was added to the tenth grade test. Eighth graders were added to the testing pool, being tested in reading, math and science. In 2003-2004, the fifth graders started taking the science portion, along with math, reading. The third and sixth graders were the last groups to be added to the WASL takers, with both grades having to take the reading and math portion.

These tests were given state wide in order to measure a student's progress from year to year and students were also measured against all other students from that grade in the state. There were four different levels of performance: well below standard, below standard, meets standard, exceeds standard. The goal of the school was to continue to increase the proficiency of their students in each of

the above categories and subjects, by a certain percent each year or make Adequate Yearly Progress (AYP). This percentage was to be determined by each individual school, using their scores and a mathematical formula. The goal was that eventually all students would be at standard or above. If a school didn't succeed in raising the scores of their students by the determined percentage for two years in a row, the school was faced with consequences. There were different consequences for not meeting the standards for two years in a row all the way up to six years in a row. If a school had not met the required growth for six years in a row, all or most of the staff could be replaced, someone outside the school could be called in to run the school, or the state could take over the school.

(OSPIwww.k12.wa.assessment/default.aspx).

Reading Measurements

There were two different tools used to measure student growth in fluency and reading comprehension. These two tools were the DIBELS fluency test and the comprehension tests found at the end of each story in the Harcourt Trophies reading series.

DIBELS

The Dynamic Indicators of Basic Early Literacy Skills or DIBELS was based

on work from the Institute for Research and Learning Disabilities at the University of Minnesota in the 1970s-80s. (e.g., Deno and Mirkin, 1977; Deno, 1985; Deno and Fuchs, 1987; Shinn, 1989). Deno and his colleagues developed a set of measurement procedures for Curriculum-Based Measurement (CBM), which was to be used as cost-effective yet efficient indicators of a student's progress toward achieving a general outcome.

The DIBELS was created in the late 1980's by the University of Oregon. It too was designed to be a short (one minute) fluency measurement to be used in monitoring the development of early literacy and early reading skills. It was designed to be used in kindergarten through sixth grade. The test had seven different measures that acted as indicators of where the child was in the following areas: phonemic awareness, alphabetic principle, accuracy and fluency with connected text, reading comprehension, and vocabulary. The seven different measurements and the grades that they correspond with were as follows:

1. Initial Sounds Fluency- from beginning through middle of kindergarten.

This tested whether a child could produce the beginning sound of a given word.

2. Letter Naming Fluency- from beginning of Kindergarten through

beginning of First Grade. Tested whether a child could identify the specified letters shown to them.

3. Word Use Fluency- from beginning of Kindergarten through end of Third Grade. Tested the ability to use a given word accurately in context, in a sentence.
4. Phoneme Segmentation Fluency- from middle of kindergarten through the end of First Grade. Testing whether a child can produce individual sounds within a given word.
5. Nonsense Word Fluency- from middle of kindergarten through beginning of Second Grade. This tested the student's ability to blend letters together to make nonsense words.
6. Oral Reading Fluency- from middle of First Grade through Sixth Grade. Tested all students three times a year, beginning, middle and end, in how they read a specific text at their grade level. Only students who did not meet their specified benchmark and got less than 95% accuracy, would continue to be monitored every two weeks.
7. Retell Fluency- from middle of First Grade through Sixth Grade. Tested

students ability to show understanding of a verbally read text by retelling it.

The DIBLES test had a specific standard set for all administration and the scoring of the test. This was to ensure that all students were treated the exact same way. Materials could be found on the DIBLES website (dibbles.uoregon.edu/dibblesinfo.php) to train people on how to administer and score these tests.

Harcourt Reading Series

The reading curriculum Bridgeport Elementary had adopted was the Harcourt Trophies reading series, published by Harcourt, Inc., 2005 edition. The fourth grade curriculum was composed of six themes, with five stories in each theme. At the end of each story there was a 20 question comprehension test, consisting of 18 multiple choice and 2 extended answer questions. Scores on these tests were used to determine the students' comprehension each semester.

Fluency / Repeated Reading

The United States had a failing grade for fourth graders, as stated on THE READING REPORT CARD, (Musti-Rao, Hawkins, Barkley, 2009) with only 28% of 4th graders nation wide reading at the proficiency level.

www.edcounts.org/archive/sreports/qc97/intros/reportcard.htm. Students from low socioeconomic and culturally diverse backgrounds came to school with less language skills in all areas, including vocabulary, sentence structure, and oral language skills than their more affluent counterparts. Increasing a student's reading fluency was one way to improve a student's reading ability and comprehension. As students become more fluent, they gained two benefits, reading with expression and enhanced comprehension. (Literacy Research and Instruction, 2009) Other benefits were that their "reading self-concept" and their "value of reading" both increased. As their reading skills (fluency) increased so did their motivation to read (p.320-321).

The National Reading Panel (2000) noted that fluency has been defined as the ability to read a text quickly, accurately, and with proper expression. Adams, (2002), said "fluency is the ability to read with sufficient ease and accuracy that one can focus attention on the meaning and message of the text." (p.6) Many different factors have been identified that contribute to reading fluency, but the four main components were reading speed, accuracy, prosody and comprehension. Prosody having been defined as the speaking of the language with stress or emphasis, pitch variations, intonation, reading rate, and pausing. (Osborn & Lehr, 2003) Students who were fluent readers had better comprehension because they

were not spending their time and effort in sounding out the words, or struggling with the reading process, and thus losing the meaning and message of the sentence in the process (Samuels 1979).

There were many different interventions available to be used to increase fluency. One method that research had shown to increase both reading rate and comprehension was through Repeated Readings (RR). There were various forms or formats of RR: (a) the direct instruction approach, where the whole class chorally responded to their teacher's oral reading; (b) small group approach, where groups of three to five students each took turns reading a passage out loud; (c) the learning center or computer lab approach, using technology to listen to a passage, then students read orally with the passage several times (Read Naturally was such a program); (d) the peer-mediated approach, where students were paired up and read a specified passage for 1 minute while their partner was checking for mistakes. They counted the number of words read correctly, subtracted the number of mistakes made, and recorded the score on their partners paper. Then they traded jobs using the same passage. They continued doing this paired Repeated Readings until they reached their benchmarked goal. (Yurick et al.2006)

The peer-mediated approach was the format used by this researcher.

The Brain, Reading and Cognitive Ability

In Epstein's article Gender Dependence and Asymmetry of Brain and Mind Growth (1986), he stated that the brain started and continued to grow soon after conception until the end of a child's first year. During that time the brain cells were reproducing so rapidly that there were more than 200 million at birth. After age one, no more new brain cells were created. However, the brain cells themselves grew in size and the connections between the brain cells (axons and dendrites) continued to grow and thus the brain got bigger after birth. Scientists knew that the brain had many different functional regions right from birth. Language, writing, auditory, visual, and oral reading were all stored in different parts of the brain. As children were exposed to things in their environment they made connections with things stored in their brains. Those who had experienced a richer environment, had varied experiences, and/or had their interest piqued, made more brain connections. The brain cells, called neurons, were connected to each other by thread-like connections called dendrites. Brain cells or neurons were always making new dendrites. The more connections that were made between neurons, the better a person would be able to think, reason, and solve problems. Young children had fewer connections than school age children, and the amount of connections continued to grow as the brain was stimulated and used.

Does the age of a child and their gender affect what and when to teach certain concepts? There seemed to be stages and spurts in the growth of the brain. As stated by Professor Lawrence F. Lowery in The Biological Basis of Thinking and Learning, there were seven biologically based stages where the development of pattern seeking takes place:

1. Inability to Impose Patterns – Stage 1: Accidental Representation
(Preschool level 1)
2. Pre-Patterning Abilities – Stage 2: Resemblance Sorting (Preschool level 2)
3. Stage 3: Consistent and Exhaustive Sorting (Primary level)
4. True Patterning Abilities – Stage 4: Multiple Membership Classifying
(Upper Elementary level)
5. Stage 5: Inclusive Classifying (Middle school level)
6. Flexibility in Patterning Abilities – Stage 6: Horizontal Repatterning
(Junior High level)
7. Stage 7: Hierarchical Repatterning (High School level)

Epstein stated that there were certain years of rapid brain growth and certain years that the brain would plateau. Boys and girls made different amounts of

growth during these rapid growth periods. He found four specific periods of rapid brain growth, from 2-4, 6-8, 10-12 and 14-16 years of age. The most brain growth took place during the last two growth periods. Epstein's research was based on the measuring of the head, measuring the weight of the brain and EEGs. His findings concluded that girls at 10-12 years of age have twice as much brain weight growth over boys. However the trend is the opposite during the 12-14 years of growth. In other words by the age of 14 things seemed to have evened out. Whether a child is more right or left brained did have an effect on how they learned and their natural abilities. However, it was the environment that the child grew up in and their interaction with that environment that had the greatest effect.

Judy Willis seemed to support Epstein in her article, *What Brain Research Suggests for Teaching Reading Strategies*, (2009). She stated that there was a correlation between active mental "manipulation" of the brain and successful memory of information. This "manipulation" included responding to things heard, read, discussed, or written. The more thinking that went on, the more neuronal activity, and the higher the level of cognition. Willis stated that "the implication is that the more opportunities students have to receive, pattern, and consciously manipulate new information, the greater will be the neural network stimulation and development." (p.335)

Willis also stated that that enriched environments resulted in "better brains". A study called the Abecedarian Project was conducted to see if there was a correlation between a child's environment and academic outcomes. Children from poor, slightly mentally retarded mothers ranging in ages from 4 months to 8 years old were followed until they reached 15 years of age. There was a control group and an experimental group. The control group had good food and health care provided, but nothing else. The experimental group had the same nutritious food and health care as the control group, but was also placed in an enriched environment 5 days a week. This enriched environment included things such as interaction with care givers, being read to, being told stories, and playing games.

The results of the study found by the age of 15, 50 percent of the control group had failed one or more grades, while only 13 percent of the experimental group had. Those children who had entered the experimental group before the age of 5 scored higher in both reading and math at the age of 15 than those in the control group.

Summary

The focus of this chapter was to address the available evidence to the topics of (a) NCLB/WASL/AYP, (b) Reading Measurements, (c) Fluency/Repeated Reading, (d) Reading and Cognitive Ability. The methodology and treatment of

the data are reported in Chapter 3.

The Federal mandate of No Child Left Behind and the laws enacted to support the mandate have left schools trying to meet these standards and close the achievement gap. One of those gaps found at Bridgeport Elementary School was in reading.

To help close this gap and raise reading comprehension, reading fluency was focused on. The measurements used to determine a student's reading fluency and comprehension were the DIBELS and the Harcourt Trophies reading series respectively.

The theory was that if a student's reading fluency went up so would their comprehension. The intervention used to increase the students fluency was Repeated Readings. Research showed that the more times you read something the better you will be able to recall what you had read.

Research also suggested that the brain had certain ages when learning was more optimal and different areas that were involved in the reading process. Stimulating all the different areas through enriched learning experiences was the best way to stimulate neuronal activity, making more connections, resulting in "better brains".

CHAPTER 3

Methodology and Treatment of the Data

Introduction

The Fourth grade Washington Assessment of Student Learning or WASL scores for Bridgeport Elementary School had been fluctuating in recent years. The reading scores for the fourth graders had been at 63% in 2006-2007, then they had dropped to 35.3% in 2007-2008, then they went back up to 64.8% in 2008-2009. In order to keep the scores growing in the right direction, the researcher decided to focus on reading, by working on the students' reading fluency. The goal was to see if an increase in fluency would result in an increase in their reading comprehension. In the data analysis, a *t*-test was used to determine statistical and educational significance.

Methodology

This research project was a combination of a couple of different research methods. It was Quasi-experimental Research, Action Research and Descriptive Research. It was Quasi-experimental because although this project was conducted in a real life setting like experimental, the researcher could not control all the variables. It was single-variable in its design in that the participants in the class were considered as one group, and that group was not exposed to a treatment the

first semester and then was exposed to the treatment the second semester. It was also Action Research because the purpose of the project was to increase reading fluency which would in turn raise the student's comprehension scores on the weekly Harcourt Trophies tests in the classroom with this research directly involved in the project. Surveys that were given to the participating students at the end of the project were a form of Descriptive Research.

Participants

The participants in this study were the Fourth Grade reading switch class of Mrs. Sanon. There were 18 students, with 10 of them being boys and 8 of them girls. Half of the students, (9) were from an English speaking household, and the other half spoke Spanish at home. All students had free breakfast and lunch provided by the school. They were in the reading class for the 2009-2010 school year and all were reading at grade level. All 18 students were given the survey at the end of May 2010, after a semester using the intervention described below.

Instruments

The DIBELS test was the tool used to determine the student's reading fluency level. This test was given three times a year by Bridgeport's reading coach, Amy Porter. Because the same person had tested all of the students throughout the year, there was a standard of reliability established. The test given in September was

the baseline (pretest) for each student's fluency. The test given at the end of January became the posttest for the first semester and the pretest for the next semester. The test at the end of May was the posttest for the second semester.

The 20 question weekly Harcourt Trophies test at the end of each story was the tool used to determine comprehension of the story. The scores between the two semesters were tabulated and compared, with the first semester having had no intervention of Repeated Reading, and the second having received the intervention of Repeated Reading . These scores were used to determine if a growth in comprehension was achieved. Excel spreadsheets were used to organize and assimilate the data. Fluency practice was in the form of Repeated Readings which consisted of reading a specified portion of that week's story each day for 1 minute while being checked for mistakes. Excel was used to make the graphs and tables. Statpak was the statistical calculator used to determine significance of the data results.

Design

As stated above this research project was a combination of different research methods. It was Quasi-Experimental Research in that it was as close to true experimental as possible, but all of the variables could not be controlled. Some of

the variables that could not be controlled were: maturation, effects of testing, statistical regression, selective attrition, and stimulus novelty or adaptation. The procedure used was a one group pretest-posttest design, where the group was pretested, had no treatment for a semester, and then was post tested. The group was given an intervention for the next semester and then tested again. The scores on the pre and post tests were compared to see if the intervention was a success. Because all variables were not controlled there were restrictions to the internal and external validity.

It was also Action Research because this project was developed to solve the problem of low reading scores on the WASL in the researchers' classroom. An intervention of Repeated Reading was introduced to raise the fluency level of the fourth grade students at Bridgeport Elementary School. The theory was that the higher the fluency level, the better the students' scores on their DIBELS and Harcourt Trophies comprehension tests. Because this action research was done by teachers for teachers it tended to be more persuasive, relevant, and accessible. Teachers were identifying a problem in their classroom, and developing a solution to that problem. They were becoming the authorities in their classroom not relying on outside experts.

The use of a survey at the end of the study to find out how the participants felt

about the research project as a whole, and specifically whether the intervention used was thought to have been successful, was a form of Descriptive Research as defined by Gay in Educational Research, Competencies for Analysis and Applications.(2009)

Procedure

Permission to conduct this research study with students from Bridgeport Elementary School was obtained from the principal, Michael Porter at the beginning of the 2009-2010 school year. This included permission to implement the intervention, Repeated Reading, the second semester and to administer a survey at the end of the second semester. It was the school's policy that all students in the elementary school be given a DIBELS fluency test three times a year, the beginning, middle, and end. This test was developed by the University of Oregon and was widely accepted as a good measure of fluency. In Bridgeport an instructor, who was the reading coach, gave the students an individual DIBELS test three times a year to progress monitor how well each student was doing. What type of test was given depended on the student's grade level. For this study involving Fourth grade student, the oral fluency test was given. Each student was

given three tests at their grade level and the median test was the score they received. In other words the top score and bottom score were thrown out. This test was given three times a year, beginning, middle, and end; with a certain benchmark score the student had to meet in order to be considered fluent. This benchmark score was increased at each testing date. Each student had one minute to read a prescribed passage and the monitor marked any mistakes that were made. When the minute was up, the monitor would count the number of words read and then subtract mistakes made. The score students got was their fluency score. Their score was then divided by the number of words they read, and that indicated their accuracy score. The scores from the fall DIBELS test were tabulated and used as the baseline for the student's fluency.

The students in this study attended their regular reading switch class with no special interventions the first semester. Each week a different story was read and discussed. A 20 question comprehension test, consisting of 18 multiple choice and 2 extended response questions, was given at the end of the week. Scores from there tests were kept and tabulated to find an average. At the end of the semester another DIBELS fluency test was given. The first DIBELS fluency test was the pretest and the second was the posttest. Scores were compared to see if there was

any growth. The posttest was used as the pretest for the second semester.

An intervention of Repeated Reading was introduced on January 25, 2010.

Repeated Reading involved students being paired up and reading a passage from the weekly story for 1 minute, while their partner was checking for mistakes. They then counted the number of words read correctly, subtracted the number of mistakes made, and recorded the score on their partners paper. The students then traded jobs using the same passage. They continued doing this paired Repeated Readings daily until they completed that week's story. The students continued this each week, with each new story. Weekly Harcourt Trophies comprehension tests continued to be taken and scores tabulated. At the end of the second semester another DIBELS fluency test was taken. For both the DIBELS fluency test and the Harcourt Trophies comprehension tests, scores were tabulated and compared to their mid-year scores to see if growth took place. A *t*-test was used to determine if the growth was significant.

The students were given a survey at the end of the intervention. This survey was to determine if their feelings toward reading had changed as a result of the intervention. It was also to determine if they felt their confidence level had

increased as a result of the intervention of Repeated Reading.

Results of the study were examined, tabulated, and conclusions were drawn as to whether Bridgeport Elementary would adopt repeated reading as an intervention to increase fluency and comprehension in reading.

Treatment of Data

The difference between the DIBELS pre and post tests each semester was used to determine growth. The averages of the weekly comprehension scores were also compared between the two semesters to determine if there was growth the second semester and to thus verify the use of the intervention.

A *t*-test, found in the statpak, was utilized between the pre and post test scores of the second semester DIBELS tests scores to determine if there was any significant growth during the second semester when the intervention of Repeated Reading was applied. Excel was used to develop graphs.

Summary

This chapter was designed to review the methodology and treatment of data related to the increase of fluency and comprehension through the intervention of repeated reading. The analysis of data and findings from this study are reported in Chapter 4.

CHAPTER 4

Analysis of the Data

Introduction

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

Description of the Environment

This study was conducted during the 2009-2010 school year and involved 18 fourth grade students from Bridgeport Elementary School located in the rural community of Bridgeport, Washington. Involved were 10 boys and 8 girls from the researcher's 90 minute reading switch class. The class was a mixture of Anglo and Hispanic students, with the home language being Spanish for most of the Hispanic students. They learned and spoke English at school, and were considered 1st generation English speakers. All students received free breakfast and lunch because of the districts low socio economic status.

The class as a whole did not receive any special fluency interventions the first semester, and then were given the specified reading intervention, Repeated Reading, the last semester. The assessment tools used were the DIBELS fluency test and the Harcourt Trophies comprehension tests. End of first semester scores

were tabulated and compared to end of second semester scores to determine if growth took place.

Hypothesis

Students who receive Repeated Reading fluency instruction will score significantly higher on their second semester post DIBELS fluency test than students who did not receive Repeated Reading fluency instruction. Students who receive Repeated Reading fluency instruction will score significantly higher on their second semester Harcourt Trophies comprehension tests than students who did not receive Repeated Reading fluency instruction. Students who receive the fluency practice of Repeated Reading will report being more confident taking their DIBELS and Harcourt Trophies reading tests than students who did not receive the fluency practice of Repeated Reading.

Null Hypothesis

Students who receive Repeated Reading fluency instruction will not score significantly higher second semester on their post DIBELS fluency test than students who did not receive Repeated Reading fluency instruction. Students who receive Repeated Reading fluency instruction will not score significantly higher on their second semester Harcourt Trophies comprehension tests than students who did not receive Repeated Reading fluency instruction. Students who receive

fluency practice will not report being any more confident taking their DIBELS and Harcourt Trophies reading tests than students who did not receive fluency practice.

Results of the Study

The following graphs analyzed the results of the study. The results of the Harcourt Trophies comprehension tests were looked at two ways. First they were compared as a group, the class as a whole, comparing the first semester with the second semester. Then they were broken down by gender to see if there was any significant difference between the girls and the boys, when comparing the two semesters. The DIBELS fluency tests were also analyzed using a *t*-test to determine if there was significant growth. Specific questions from the survey given at the end of the study were tabulated to establish how students felt about reading in general and specifically how they felt about the use of the implemented intervention of repeated reading.

Figure 1 compared the mean results of the students' scores on their Harcourt Trophies comprehension tests the first semester with the second semester. The first semester had no intervention, while the intervention of Repeated Reading was applied the second semester. The result was an increase of the mean score in their Harcourt Trophies comprehension tests from a first semester mean score of

209.0278 to a second semester mean score of 210.5. The difference between the first semester mean score and the second semester mean score was not significant, being only a 1.472222% gain.

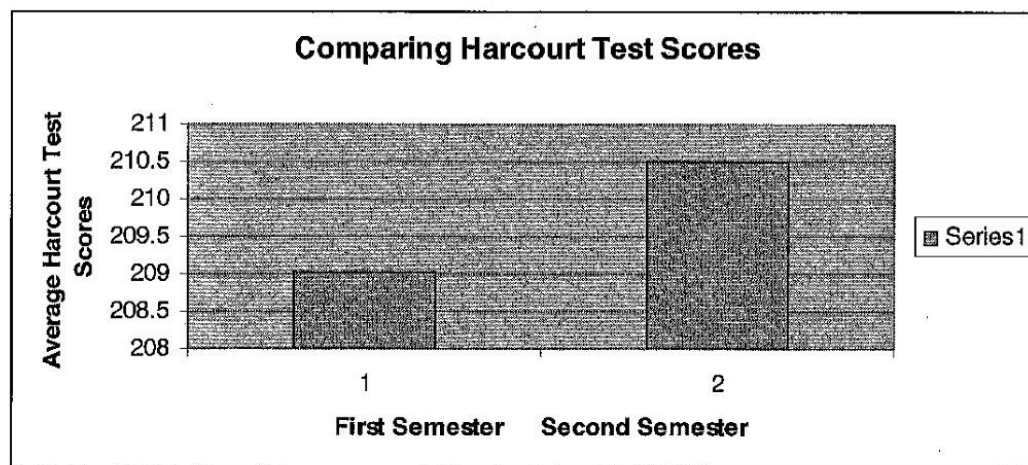


Figure 1

The use of the intervention of Repeated Reading seemed to have a different effect on the boys then on the girls. As seen in figure 2, the boys' comprehension grew 4.2% between the first and second semesters, with the implementation of the intervention of Repeated Reading. The boys started out behind the girls with an average score of 206.9, but increased to where the girls had begun, with an average score of 211.1. Though this was not a significant increase, it was an increase.

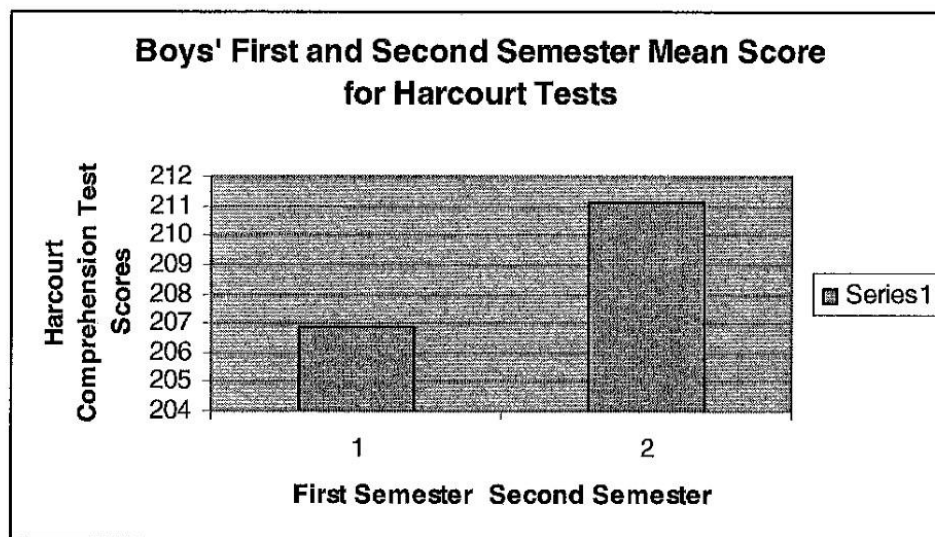


Figure 2

In contrast, as seen in figure 3, the girls ended the first semester with a higher average comprehension score than the boys, with a score of 211.6875. However, after using the Repeated Reading intervention their mean comprehension score went down 1.9375 to a score of 209.75.

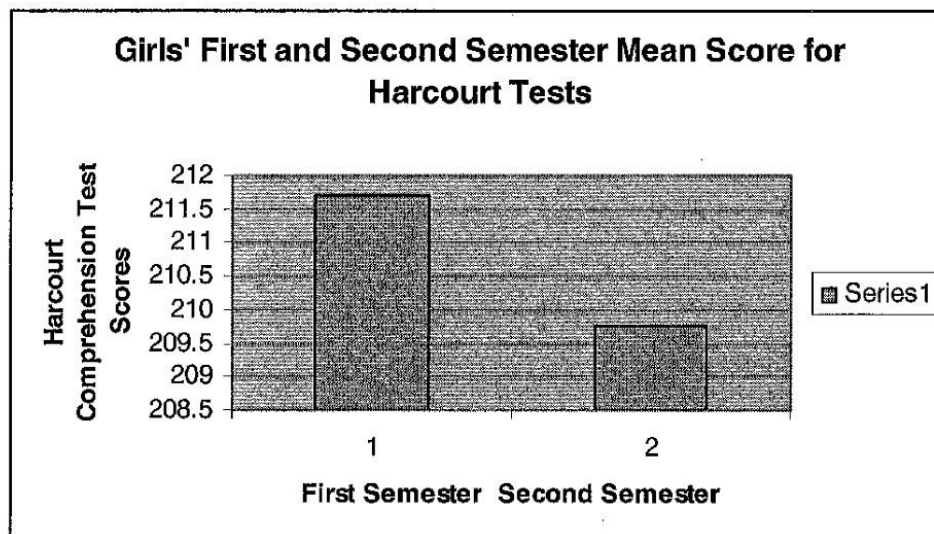


Figure 3

The DIBELS test was given at the beginning and end of each semester. The Benchmark scores increased throughout the year, corresponding to the grade of the student. In this study the benchmark goal of words correct per minute for fall was 93, for winter was 105, and for spring was 118.

The results showed an increase in the classes' fluency as the year progressed. The benchmark was continually raised as the year progressed with the students needing to increase their fluency in order to meet the moving benchmark.

A *t*-test for nonindependent samples was used to tabulate the results of the DIBELS fluency scores to see if the growth the second semester was actual or was what would be expected by chance. The pre test and post test scores for the

second semester were entered into the statpak statistical calculator. The results of the test found the t value was 2.33, with a degree of freedom of 17. In order to be considered significant or not by chance, a score of at least 2.110 was needed. With the t-score of 2.33, this study met the criteria needed to show a significant change, with the probability of the results being by chance being less then 0.05%. The sum of the data was 110.00, the mean was 6.11, and the sum of data squared was 2786.00. However, the amount of growth between the first and second semesters, when looking at the mean difference score, was not found to be significant. (See Appendix J)

At the end of the study a survey was given to the class to determine how they felt about reading and the intervention of Repeated Reading. (See Appendix I) One question that was asked was whether the students liked using the intervention of Repeated Reading. They used a 1-4 scale, with 4 being strongly agree, down to 1 being strongly disagree, to answer the survey questions. Figure 4 shows how the 18 students surveyed responded to the question, I liked practicing reading fluency. There were 3 students who stated that they strongly agree that they liked practicing reading fluency, 9 stated that they agreed, 5 said that they disagreed, and only 1 strongly disagreed.

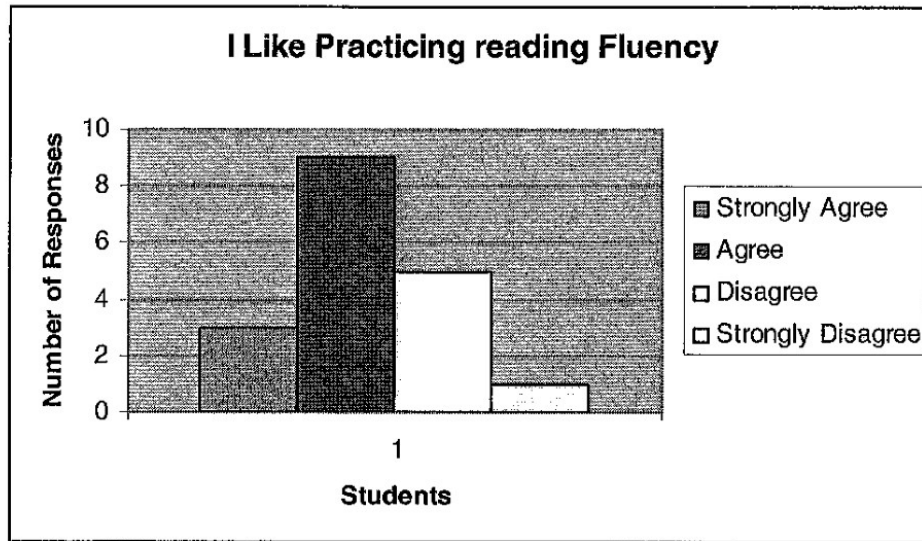


Figure 4

Figure 5 shows this information disaggregated by gender. The researcher discovered that the girls enjoyed the intervention more than the boys even though it didn't help raise their mean comprehension score on the Harcourt Trophies tests at the end of the second semester. Of the eight girls that participated in the study, 2 responded with strongly agree, 4 responded with agree, and 2 with disagree. In contrast, the boys responded with 1 strongly agree, 5 agree, 3 disagree, and 1 strongly disagree.

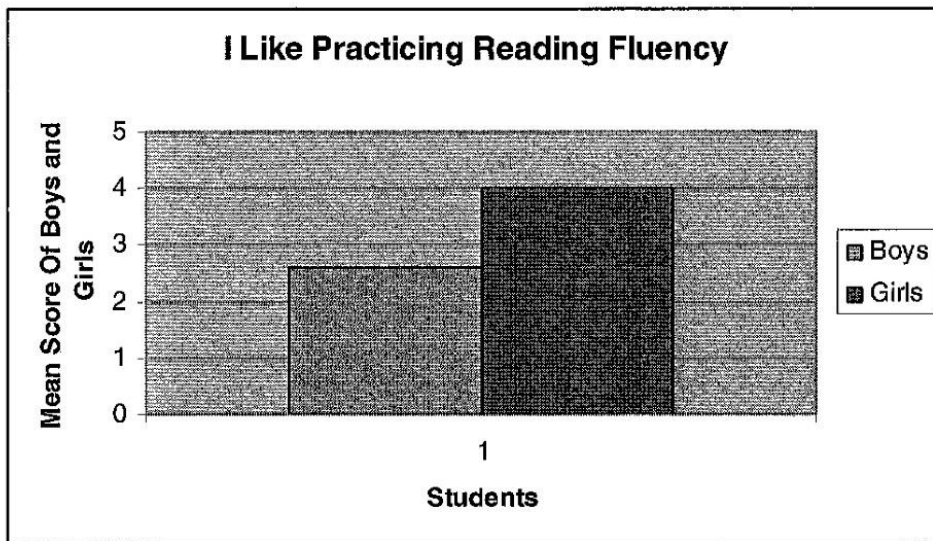


Figure 5

Students were also asked if they thought practicing fluency through Repeated Reading helped them get better scores on their Harcourt Trophies comprehension tests. As figure 6 shows, when using the mean score of 3.1 for the boys and 3.0 for the girls, both were about equal in their thinking that the practice helped. The darker color represented the girls and the lighter color represented the boys.

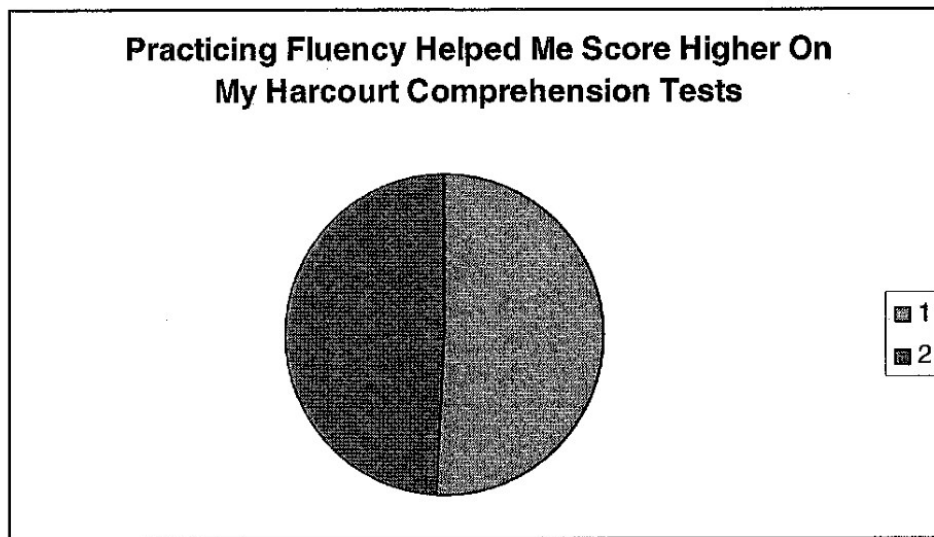


Figure 6

Figure 7 shows how the scores from the question above, practicing fluency helped me score higher on my Harcourt Trophies comprehension tests, broke down in to individual scores. The individual responses for the girls were 2 strongly agree, 4 agree, and 2 disagree. The boys responded with 4 strongly agree, 4 agree, 1 disagree, and 1 strongly disagree.

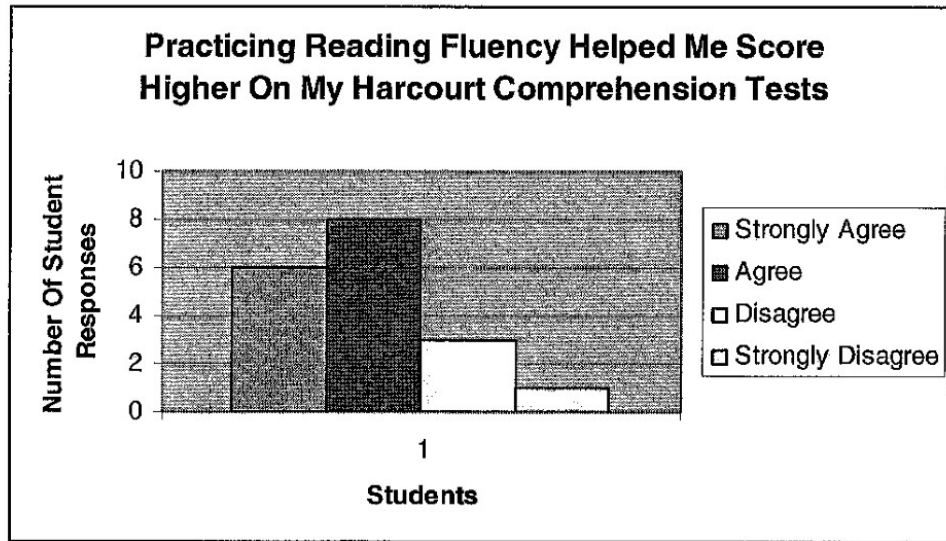


Figure 7

The boys considered themselves better readers than the girls, as seen by comparing the mean scores of 3.5 for the boys and 3.375 for the girls in figure 8. Students were responding to the statement, I am a good reader. The boys believed this even though they were lower than the girls at the end of the first semester. However, they did catch up and even slightly surpassed the girls by the end of the second semester. When the data was disaggregated further, the girls responded with 3 strongly agreed, and 5 agreed, while the boys had 6 strongly agreed, 3 agreed, and 1 disagreed.

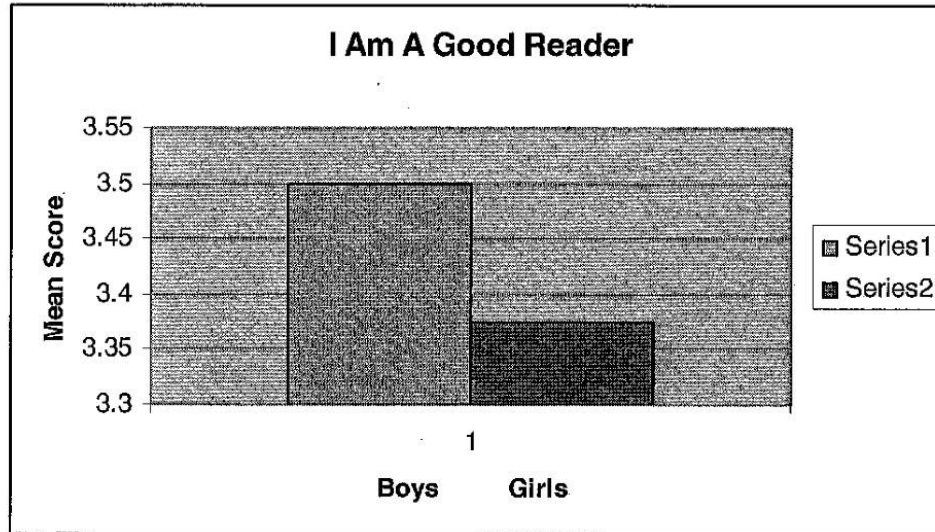


Figure 8

Findings

An analysis of the above data led this researcher to conclude that the hypothesis, students who receive Repeated Reading fluency instruction will score significantly higher on their second semester post DIBELS fluency test than students who did not receive Repeated Reading fluency instruction, was supported, as validated by the t-test scores.

The hypothesis, students who receive Repeated Reading fluency instruction will score significantly higher on their second semester Harcourt Trophies comprehension tests than students who did not receive Repeated Reading fluency instruction, was not supported. Though there was a slight increase in the mean

difference of the Harcourt Trophies comprehension scores in the second semester when compared to the first semester, the growth was not found to be significant, which caused the hypothesis to be rejected.

Also, the hypothesis, students who receive the fluency practice of Repeated Reading will report being more confident taking their DIBELS and Harcourt Trophies reading tests, was supported.

The null hypothesis, students who receive Repeated Reading fluency instruction will not score significantly higher second semester on their post DIBELS fluency test than students who did not receive Repeated Reading fluency instruction, was rejected.

However, the hypothesis, students who receive Repeated Reading fluency instruction will not score significantly higher on their second semester Harcourt Trophies comprehension tests than students who did not receive Repeated Reading fluency instruction, was supported.

Finally, the hypothesis, students who receive fluency practice will not report being any more confident taking their DIBELS and Harcourt Trophies reading tests, was rejected.

Discussion

This study, which was conducted during the 2009-2010 school year, involved

18 fourth grade students, 10 boys and 8 girls, from Bridgeport Elementary School located in Bridgeport, Washington. The class was a mixture of Anglo and Hispanic students, with most of the Hispanic student speaking Spanish at home and learning English because they lived in and went to school in America and were considered 1st generation English speakers. All students received free breakfast and lunch because of the high poverty rate in the district.

The focus of this study was to determine if the use of the intervention of Repeated Reading would increase the classes' reading fluency as tested by the DIBELS and increase the students' comprehension when tested on the Harcourt Trophies comprehension tests. The students were given a pre and post test each semester on the DIBELS, and took weekly Harcourt Trophies comprehension tests. The first semester there was no intervention of Repeated Reading applied, while the second semester the intervention of Repeated Reading was applied.

The results of this study found that there was a significant increase the second semester in the students' fluency as tested by the DIBELS. The mean score of correct words per minute for the first semester was 125.2222, while the second semester mean score was 131.333. When entered into a *t*- test for significance, the *t*- value was 2.33. This meant that the growth was actual, with over a 95% probability that the growth was not by chance. This seemed to correspond with

published research such as was stated in Literacy Research and Instruction, 2009.

Although there was a significant increase in the DIBELS score when comparing pre and post test scores the second semester, the amount of the increase, when compared to the first semester, decreased. The mean difference score for correct words per minute for the first semester was 13.77778 while in the second semesters the mean difference score was 6.11111. When the statistics were entered into a *t*-test for significance, the *t*-value was -2.26

There were some limitations of this study that affected the results of the study. One was the size of the group and the participants involved, the other is the length of treatment. Research shows that the larger the group the more accurate the test results are “actual” and not by chance, which increases the validity of the study. This study consisted of only 18 students, of whom most were reading at or above grade level. In light of the students’ already elevated baseline of reading fluency, the opportunities for extended growth are more limited than those with a lower baseline.

The time allowed for the study was also a limitation. Again research shows validity increases as the length of the study increases. This study was conducted in a classroom, so the parameters were the school year during which the study took place.

Another limitation was that as the year progressed the Harcourt Trophies reading series got harder. By the end of the second semester the students in this study were reading above their grade level, and were in a fifth grade reader. If the stories that were read had stayed at the students' grade level, then there might have been a different result in the statistics in both the Harcourt Trophies comprehension test scores and the DIBELS fluency test scores.

The researcher found it interesting that the comprehension scores of the girls and boys seemed to even out by the end of the year. The girls scored higher in the first semester, but the boys caught up by the end of the second semester which was supported by the research found in chapter 2, in the section entitled The Brain, Reading and Cognitive Ability.

Summary

This chapter was designed to analyze the data and identify the findings. Results from the data, led this researcher to accept the hypothesis that students who receive Repeated Reading fluency instruction will score significantly higher on their second semester post DIBELS fluency test than students who did not receive Repeated Reading fluency instruction. This was supported by the t-test scores. The hypothesis students who receive Repeated Reading fluency instruction will score significantly higher on their second semester Harcourt

Trophies comprehension tests than students who did not receive Repeated Reading fluency instruction, was not supported. Though there was a slight increase in the mean difference of the Harcourt Trophies comprehension scores in the second semester when compared to the first semester, the growth was not found to be significant, which caused the hypothesis to be rejected. Also, the hypothesis, students who receive the fluency practice of Repeated Reading will report being more confident taking their DIBELS and Harcourt Trophies reading tests, was supported.

The null hypothesis, students who receive Repeated Reading fluency instruction will not score significantly higher second semester on their post DIBELS fluency test than students who did not receive Repeated Reading fluency instruction, was rejected. However, the hypothesis, students who receive Repeated Reading fluency instruction will not score significantly higher on their second semester Harcourt Trophies comprehension tests than students who did not receive Repeated Reading fluency instruction, was supported. Finally, the hypothesis, students who receive fluency practice will not report being any more confident taking their DIBELS and Harcourt Trophies reading tests, was rejected. Chapter 5 will summarize the study, draw conclusions, and make recommendations.

CHAPTER 5

Summary, Conclusions and Recommendations

Introduction

This chapter has been organized around the following topic: (a) Introduction, (b) Summary, (c) Conclusions, (d) Recommendations. The purpose of this study was to determine if the practice of reading fluency through the intervention of Repeated Reading, was a viable intervention to increase student achievement on both the DIBELS and Harcourt Trophies reading comprehension test. It was also to determine if the students' confidence in their test taking ability would increase with the fluency practice.

Summary

This study was conducted at Bridgeport Elementary School, located in North Central Washington, as a result of the school having not met AYP for three years in a row and being placed on step 2. In order to help raise the reading scores, fluency was focused on, specifically the intervention of Repeated Reading. This study was conducted to determine if the intervention of Repeated Reading would show a significant growth in the fluency scores as tested by the DIBELS and whether the scores on the Harcourt Trophies comprehension tests would also

increase. The findings of this study accepted the first and third premise of the hypothesis, but rejected the second premise. The first and third premise of the null hypothesis were rejected, while the second premise was accepted.

Various research articles were reviewed by the researcher to gather information about NCLB/WASL/AYP, the DIBELS test, fluency and its importance, the intervention of Repeated Reading, and reading and cognitive ability. The above research was used to assist the researcher in understanding the importance of reading fluency and the role it played in reading and reading comprehension. The data was collected and tabulated using graphs and a *t*-test.

Conclusions

Fluency was considered an important element in the reading process. The practice of fluency through the use of the intervention Repeated Reading, resulted in a significant increase in the students' DIBELS scores. This was determined by imputing the pre and post second semester DIBELS scores into a *t*-test, with the resulting score of 2.33. This means that there was less than .05% chance that the growth was by chance. The mean of the data was 6.11, with the sum of the data being 110.00. The sum of the data squared was 2786.00.

However, when measuring the amount of growth the first semester as compared to the second semester, using the DIBELS pre and post test scores, the

results showed a negative growth. This was determined by imputing the difference between the pre and post DIBELS scores first semester, and the difference between pre and post scores the second semester, into a *t*- test, with the resulting score of -2.26. The mean of the data was -7.67, with the sum of the data being -138.00. The sum of the data squared was 4566.00. This means that there was less growth the second semester, or a negative growth. The results of the Harcourt Trophies comprehension tests did show a slight growth, but it was not considered significant.

Although the mean score for the girls was higher than the boys on the Harcourt comprehension tests the first semester, the boys caught up with and even slightly surpassed the girls the second semester. Research seemed to suggest that even though there are different rates of brain growth within the two genders, both the males and females seen to evened out in the end.

Recommendations

When considering all the results of the study, the researcher accepted the hypothesis, students who receive Repeated Reading fluency instruction will score significantly higher on their second semester post DIBELS fluency test than students who did not receive Repeated Reading fluency instruction, as validated by the *t*- test scores. The hypothesis, students who receive Repeated Reading

fluency instruction will score significantly higher on their second semester Harcourt Trophies comprehension tests than students who did not receive Repeated Reading fluency instruction, was not supported. Though there was a slight increase in the mean difference of the Harcourt Trophies comprehension scores in the second semester when compared to the first semester, the growth was not found to be significant, which caused the hypothesis to be rejected. Also, the hypothesis, students who receive the fluency practice of Repeated Reading will report being more confident taking their DIBELS and Harcourt Trophies reading tests, was supported.

The null hypothesis, students who receive Repeated Reading fluency instruction will not score significantly higher second semester on their post DIBELS fluency test than students who did not receive Repeated Reading fluency instruction, was rejected. However, the hypothesis, students who receive Repeated Reading fluency instruction will not score significantly higher on their second semester Harcourt Trophies comprehension tests than students who did not receive Repeated Reading fluency instruction, was supported. Finally, the hypothesis, students who receive fluency practice will not report being any more confident taking their DIBELS and Harcourt Trophies reading tests, was rejected.

In light of this, the researcher feels a more thorough study needs to be

conducted in order to truly evaluate if Repeated Reading is a viable intervention to increase reading fluency, before recommending that Bridgeport Elementary School consider using Repeated Reading as a standard intervention to increase fluency in all reading classes. If the researcher were to repeat this study, an experimental study, with more validity, would be used. Two different classes, reading the same stories the same time of the year, would be used. One class would use the intervention and the other wouldn't. In this way the variable of the reading level increasing throughout the year wouldn't be a factor, as both groups are equally affected. Also, the intervention of Repeated Reading would have a full year of use, to see if to see if it was a viable intervention. A decision of whether to use Repeated Reading as a school wide intervention would be determined at that time.

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WEBSITES

What are DIBELS?

<http://www.dibels.org/dibels.html>

History of the WASL

<http://www.ehow.com> > Education > K-12 > K-12 Basics

<http://www.ehow.com> > Standardized Tests > Other Standardizes Tests

What is Adequate Yearly Progress?

www.k12.wa.us/ESEA/pubdocs/WhatisAYP.doc

Quality Counts: National Report Card

www.edcounts.org/archive/sreports/qc97/intros/reportcard.htm

What is Reading Fluency?

<http://www.learningrx.com/reading-fluency.htm>

Appendix A

Friday, September 11, 2009

Dear Principal Michael Porter,

I am planning on conducting a research project as part of my completion of my Master's in Education degree, and I would like to ask for your permission to conduct my intended research and use any test data information in my research paper as evidence of my intended research. My plan is to determine whether increasing fluency with my reading switch students will also increase their comprehension. I will use the DIBELS fluency test as my measurement for fluency and the Harcourt weekly reading tests as the measurement for student's comprehension. The intervention I will be implementing is repeated readings of one min. timings of the story we are reading that particular week.

As part of my research study, I am also planning on administering a short student survey to these 4 grade students. The survey asks them to agree or disagree with statements about their feelings toward reading. I would like to ask for your permission to administer this survey to my 4th grade reading switch students at end of the research study period.

Please fill out the bottom portion of this letter and return the entire letter to me at your earliest convenience. Thank you.

Sincerely,

Jenny Sanon
Fourth grade
Bridgeport Elementary

.....
I, Michael Porter, hereby grant permission to Jenny Sanon to
conduct the intended research described above. I also grant permission to use the DIBELS test
scores and weekly Harcourt test scores during the research and testing periods defined above. I
also grant permission to administer the student survey explained above to my 4th grade reading
switch students during the research study period.

Michael L Porter

Signature

9/11/09

Date

Appendix B

Friday, September 11, 2009

Dear Principal Michael Porter,

I am planning on conducting a research project as part of my completion of my Master's in Education degree, and I would like to ask for your permission to conduct my intended research and use any test data information in my research paper as evidence of my intended research. My plan is to determine whether increasing fluency with my reading switch students will also increase their comprehension. I will use the DIBELS fluency test as my measurement for fluency and the Harcourt weekly reading tests as the measurement for student's comprehension. The intervention I will be implementing is repeated readings of one min. timings of the story we are reading that particular week.

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also grant permission to administer the student survey explained above to my 4th grade reading
switch students during the research study period.

Michael Z Porter

Signature

9/11/09

Date

Appendix C

Friday, September 11, 2009

Dear Principal Michael Porter,

I am planning on conducting a research project as part of my completion of my Master's in Education degree, and I would like to ask for your permission to conduct my intended research and use any test data information in my research paper as evidence of my intended research. My plan is to determine whether increasing fluency with my reading switch students will also increase their comprehension. I will use the DIBELS fluency test as my measurement for fluency and the Harcourt weekly reading tests as the measurement for student's comprehension. The intervention I will be implementing is repeated readings of one min. timings of the story we are reading that particular week.

As part of my research study, I am also planning on administering a short student survey to these 4 grade students. The survey asks them to agree or disagree with statements about their feelings toward reading. I would like to ask for your permission to administer this survey to my 4th grade reading switch students at end of the research study period.

Please fill out the bottom portion of this letter and return the entire letter to me at your earliest convenience. Thank you.

Sincerely,

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also grant permission to administer the student survey explained above to my 4th grade reading
switch students during the research study period.

Michael Z Porter

Signature

9/11/09

Date

Appendix D

Q3 Like F	Q4	Q5	Q6	Q7	Q8		
3	3	1	1	3	1		
2	3	2	3	3	4		
3	4	3	3	2	4		
3	4	1	4	4	2		
3	3	1	3	3	1		
2	1	2	2	4	2		
4	4	3	3	4	3		
2	3	1	2	4	3		
3	4	3	3	4	3		
1	2	1	2	4	1		
3	2	2	3	3	4		
3	3	4	3	4	4		
3	4	3	4	3	2		
4	3	4	4	4	1		
2	3	1	2	3	2		
2	2	1	2	3	4		
3	4	3	3	4	4		
4	3	3	3	3	2		
4.2	2.6	3.1	1.8	2.6	3.5	2.4	
-1.9375	4	3	2	3	3.375	2.875	

Appendix E

Harcourt Trophies Comprehensive Tests														
Student ID	Sarah	Stealing	Cricket	Two Lands	look North	Kid's Inver	Pablo's	King Adob	Red Writ	One Gra	Fire	Very Impop	Total	TotalAve
1	20	19	18	18	20	19.5	19	18	18	20	19	16	224.5	18.70833
2	17	17		20	17.5	17.5	18	18	14	16.5	17.5	16	224.5	18.70833
3	17	19	16	17	14.5	19	16	19	19	20	16	16	189	17.18182
11	19	20	16	19	19	17.5	17	17	19	19	18	17	211.5	17.625
4	18	20	20	19	20	19	17	19	20	10	20	17	217.5	18.125
5	16	17	18	20	19	17.5	16	19	18	15.5	20	17	202	18.36364
6		19.5	20	20	18.5	18.5	17	19	20	19	20	20	213	17.75
12	16	15	14	16	17	19	14	16	17	17	14	20	211.5	19.22727
13	17	19	17	17	18	20	13	16	19	18	16	16	195	16.25
7	13.5	18	16		20	18.5	15	18	13	15.5	13	17	206	17.16667
8	16	18	18	16	17.5	17.5	18	18	19	18	17	17	177.5	16.13636
9	13	18	15	17	19.5	19	15	16	16	18	18	17	210	17.5
10	18	20	18	19	18.5	19	17	18	20	20	20	18	202.5	16.875
14	19	17	17	19	19	18	17	17	18	17	18	20	227.5	18.95833
15	19	19	19	20	20	18.5	16	18.5	19	19	19	19	213	17.75
16	16	19	17	20	19	19	16	18	19	16	16	18	226	18.83333
17	20	15	13	20	18	19	16	19	19	16	17	213	213	17.75
18	18	19	17	19	18	18	16	17	17	17	15	20	214	17.83333
												18	209	12.29412
												sub	3762.5	314.3282
												First Sem.	209.03	17.46268
												Sec. Sem.	210.5	17.5412
												difference	1.4722	0.078522

Cactus	Blue Willo	My Family	Gold Rush	Heard of	Paul Buny	Fly Traps	Down & Up	Hot & Cold	See's Beh	Yang	Dear. Mrs.	SUM	Average
16	17	17	15	16.5	20	19	19	19.5	20	18	19	216	18
17	14	17	15	16	18.5	19.5	19	19	20	16	16.5	196	16.33333
18	16	18	12	13	15	18	20	16	19	15	16	196	16.33333
15.5	14	19	15.5	17	18.5	20	17	19	20	17	17	209.5	17.45833
20	18	19	19	18.5	20	20	20	18.5	20	19	18	230	19.16667
17.5	17	17.5	17.5	16.5	18.5	20	18	17.5	19	18.5	15	212.5	17.70833
20	20	17	18	18	20	19	19	19	20	19	19	228	19
19	15	16	15	17	17	20	17	17.5	20	16	17.5	207	17.25
15	16	14.5	14	15	19	18	16	17.5	18	17.5	9	189.5	15.79167
16	8	17	17	17	17	20	16	14.5	19	16	10	187.5	15.625
18	14	18.5	15	17	16	20	20	16	17	16	17	204.5	17.04167
18	13	20	19	15	19	20	20	17	20	18	17	216	18
20	19	17	18	18	20	20	20	18.5	17.5	18	18.5	224.5	18.70833
17	17	17	14.5	13.5	18	19	17	17	19	18.5	17	204.5	17.04167
19	18	20	16	19.5	19	19	18	18.5	19	18	18	222	18.5
17	19	20	15.5	16.5	17	19	17	16.5	19	19	17	212.5	17.70833
19	19	16	14.5	19	20	19	17	19	19	18	19	218.5	18.20833
19	17	17	18	17.5	18	19	20	17	18	18	16	214.5	17.875
										sub		3789	315.75
										post		210.5	17.54167

Appendix F

[illegible]

Q3 Like F	Q4	Q5	Q6	Q7	Q8		
3	3	1	1	3	1		
2	3	2	3	3	4		
3	4	3	3	2	4		
3	4	1	4	4	2		
3	3	1	3	3	1		
2	1	2	2	4	2		
4	4	3	3	4	3		
2	3	1	2	4	3		
3	4	3	3	4	3		
1	2	1	2	4	1		
3	2	2	3	3	4		
3	3	4	3	4	4		
3	4	3	4	3	2		
4	3	4	4	4	1		
2	3	1	2	3	2		
2	2	1	2	3	4		
3	4	3	3	4	4		
4	3	4	4	3	2		
2	3	1	2	3	4		
3	4	3	3	4	4		
4	3	3	3	3	2		
4.2	2.6	3.1	1.8	2.6	3.5		2.4
-1.9375	4	3	2	3	3.375		2.875

Appendix G

Harcourt Trophies Comprehensive Tests														
Student ID	Sarah	Stealing	Cricket	Two Lands	Look North	Kid's Inver	Pablo's	King Adob	Red Wit	One Gra	Fire	Very Impop	Total	TotalAve
1	20	19	18	18	20	19.5	19	18	18	20	19	16	224.5	18.70833
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3	17	19	16	17	14.5	19	16	19	19	20	16	19	211.5	17.625
11	19	20	16	19	19	17.5	17	17	19	19	18	17	217.5	18.125
4	18	20	20	19	20	19	17	19	20	10	20	202	18.36364	
5	16	17	18	20	19	17.5	16	19	18	15.5	20	17	213	17.75
6		19.5	20	20	18.5	18.5	17	19	20	19	20	20	211.5	19.22727
12	16	15	14	16	17	19	14	16	17	17	14	20	195	16.25
13	17	19	17	17	18	20	13	16	19	18	16	16	206	17.16667
7	13.5	18	16		20	18.5	15	18	13	15.5	13	17	177.5	16.13636
8	16	18	18	16	17.5	17.5	18	18	19	18	17	17	210	17.5
9	13	18	15	17	19.5	19	15	16	16	18	18	18	202.5	16.875
10	18	20	18	19	18.5	19	17	18	20	20	20	20	227.5	18.95833
14	19	17	17	19	19	18	17	17	18	17	18	17	213	17.75
15	19	19	19	20	20	18.5	16	18.5	19	19	19	19	226	18.83333
16	16	19	17	20	19	19	16	18	19	16	16	18	213	17.75
17	20	15	13	20	18	19	16	19	19	18	17	20	214	17.83333
18	18	19	17	19	18	18	16	17	17	17	15	18	209	12.29412
												sub	3762.5	314.3282
												First Sem.	209.03	17.46268
												Sec. Sem.	210.5	17.5412
												difference	1.4722	0.078522

	Cactus	Blue Willo	My Family	Gold Rush	Heard of	Paul Buny	Fly Traps	Down & Up	Hot & Cold	See's Beh	Yang	Dear. Mrs.	SUM	Average
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	17	14	17	15	16	18.5	19.5	19	19	20	16	16.5	196	16.33333
	18	16	18	12	13	15	18	20	16	19	15	16	196	16.33333
	15.5	14	19	15.5	17	18.5	20	17	19	20	17	17	209.5	17.45833
	20	18	19	19	18.5	20	20	20	18.5	20	19	18	230	19.16667
	17.5	17	17.5	17.5	16.5	18.5	20	18	17.5	19	18.5	15	212.5	17.70833
	20	20	17	18	18	20	19	19	19	20	19	19	228	19
	19	15	16	15	17	17	20	17	17.5	20	16	17.5	207	17.25
	15	16	14.5	14	15	19	18	16	17.5	18	17.5	9	189.5	15.79167
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	18	14	18.5	15	17	16	20	20	16	17	16	17	204.5	17.04167
	18	13	20	19	15	19	20	20	17	20	18	17	216	18
	20	19	17	18	18	20	20	20	18.5	17.5	18	18.5	224.5	18.70833
	17	17	17	14.5	13.5	18	19	17	17	19	18.5	17	204.5	17.04167
	19	18	20	16	19.5	19	19	18	18.5	19	18	18	222	18.5
	17	19	20	15.5	16.5	17	19	17	16.5	19	19	17	212.5	17.70833
	19	19	16	14.5	19	20	19	17	19	19	18	19	218.5	18.20833
	19	17	17	18	17.5	18	19	20	17	18	18	16	214.5	17.875
											sub		3789	315.75
											post		210.5	17.54167

Appendix H

Mrs. Sanon's Reading Intervention Spreadsheet

[illegible]

Q3 I Like F	Q4	Q5	Q6	Q7	Q8		
3	3	1	1	3	1		
2	3	2	3	3	4		
3	4	3	3	2	4		
3	4	1	4	4	2		
3	3	1	3	3	1		
2	1	2	2	4	2		
4	4	3	3	4	3		
2	3	1	2	4	3		
3	4	3	3	4	3		
1	2	1	2	4	1		
3	2	2	3	3	4		
3	3	4	3	4	4		
3	4	3	4	3	2		
4	3	4	4	4	1		
2	3	1	2	3	2		
2	2	1	2	3	4		
3	4	3	3	4	4		
4	3	4	4	3	2		
2	2	1	2	3	4		
3	4	3	3	4	4		
4	3	3	3	3	2		
4.2	2.6	3.1	1.8	2.6	3.5	2.4	
-1.9375	4	3	2	3	3.375	2.875	

Appendix I

Survey of Mrs. Sanon's Reading Switch Class

During the last half of our school year we added reading fluency weekly into our reading switch class. I would like you to honestly respond to the following questions in order to see if this is something that that I should continue to do next year.

For each of the following, put an X next to the choice that best describes you.

1) Gender: Male_____ Female_____

2) Are you in the After School Assistance Program?

Yes_____ No_____

Use the following key to answer the following questions.

Strongly Agree	Agree	Disagree	Strongly Disagree
4	3	2	1

3) I like practicing reading fluency.

4 3 2 1

4) Practicing reading fluency on my Harcourt story each week helped me score higher on my test each week.

4 3 2 1

5) I read out loud to someone at home. (sister, brother, mom, dad)

4 3 2 1

6) I read for at least 15 minutes a day in my free time.

4 3 2 1

Use the following key to answer the following questions.

Strongly Agree	Agree	Disagree	Strongly Disagree
4	3	2	1

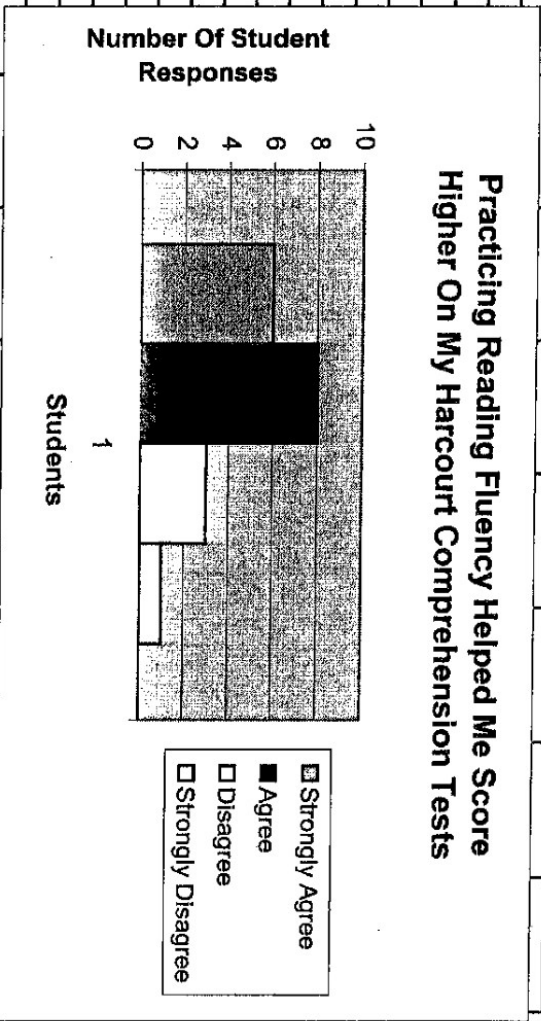
7) I am a good reader.

4	3	2	1
---	---	---	---

8) I like it when others read to me.

4	3	2	1
---	---	---	---

Q 4 Practicing reading fluency Helped My scores On The Harcourt Comprehension Tests				
Student ID	Str. Agree	Agree	Disagree	Str. Disagree
1		1		
2			1	
3	1			
4	1			
5			1	
6				1
7	1			
8		1		
9	1			
10			1	
11			1	
12			1	
13	1			
14		1		
15		1		
16			1	
17	1			
18		1	3	1
sum	6	8		



		Q 7 I am A Good Reader																		
Student ID	Str. Agree	Agree	Disagree	Str. Disagree																
1			1																	
2			1																	
3																				
4		1																		
5				1																
6		1																		
7		1																		
8		1																		
9		1																		
10		1																		
11			1																	
12		1																		
13				1																
14		1																		
15			1																	
16			1																	
17		1																		
18			1																	
sum		9	8	1	0															

Appendix J

t - TEST FOR NONINDEPENDENT SAMPLES

Statistic	Value	Group X	
Number of Pairs	18	194	<input type="button" value="Enter Score"/> <input type="button" value="Calculate"/> <input type="button" value="Clear Scores"/> <input type="button" value="Print"/>
Sum of D's	110.00	122	
Mean of D's	6.11	121	
Sum of D's Squared	2786.00	147	
t-Value	2.33	108	
Degrees of Freedom	17	121	<input type="button" value="Main Menu"/>
		124	
		149	
		Group Y	
		206	
		98	
		123	
		134	
		150	
		131	
		125	
		103	
		184	

T- test of pre and post second semester DIBELS test.

t - TEST FOR NONINDEPENDENT SAMPLES

Statistic	Value	Group X	Group Y
Number of Pairs	18	13	13
Sum of D's	-138.00	20	20
Mean of D's	-7.67	10	10
Sum of D's Squared	4566.00	9	9
t-Value	-2.26	14	14
Degrees of Freedom	17	14	14

T- test for mean difference DIBELS scores between first and second semester.