Amount of Growth of Below Benchmark Students with Progress Monitoring Compared to Benchmark Students without Progress Monitoring

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Amount of Growth of Below Benchmark Students

with Progress Monitoring Compared to Benchmark

Students without Progress Monitoring

Approved for the Faculty

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ABSTRACT

The purpose of the project was to analyze the amount of growth the below benchmark students made with progress monitoring compared to the growth of the benchmark students without progress monitoring. Eleven students were progress monitored once every two weeks from January 2006 to May 2006. The author compared the pretest and posttest *DIBELS* scores of the below benchmark students to the benchmark students by completing a *t*-test. The results stated there was a significant difference in the amount of growth the below benchmark students made with progress monitoring.

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CHAPTER 1

Introduction

Background for the Project

The school was located in a rural community in central Washington. The elementary school had a population of 480 students in October 2004. The ethnicity of the school involved White, Hispanic, African American, American Indian, and Asian students. Overall, the school was comprised of 57.7% White, 38.1% Hispanic, 1.7% African American, 1.5% American Indian, and 1% Asian. The elementary school consisted of 15.5% transitional bilingual, 12.9% migrant, and 14.5% special education students. There were 68.8% of students in the free or reduced lunch program ("Report Card," 2006).

The elementary school met Adequate Yearly Progress (AYP) for the year of 2004-2005. The scores for the Washington Assessment of Student Learning (WASL) improved in reading, math, and writing from 2003-2004 to 2004-2005. In 2003-2004, 57.1% of the students met the standard for reading. In 2004-2005, 85.7% of the students met the standard. In 2003-2004, 42.9% of students met the math standard. The following year, 2004-2005, 72.7% of students met the math standard. In the area of writing, 41.3% of students met the standard in 2003-2004. In 2004-2005, 44.2% of students met the writing standard ("Report Card," 2006).

Overall, the number of students who met the first grade spring scores for the area of nonsense word fluency on the Dynamic Indicator of Basic Early

Literacy Skills (DIBELS) for the year 2005-2006 was 71%. "*DIBELS* is an assessment instrument that measures how successfully a child is progressing in the critical skills that underlie success in early reading" (Hall, 2006, p. 30). The school has used *DIBELS* as an assessment tool for the past two years. The assessment tool was piloted the first year before implementation (2004-2005).

Read Well was the key reading program for kindergarten and first grade at the elementary school. However, *Read Well* was used as a remedial reading program in second grade. *Read Well* was a direct instruction approach to reading. The program focused on phonemic awareness, phonics, vocabulary, fluency, and comprehension skills. The *Read Well* program also implemented many strategies for English as a Second Language (ESL) students.

Read Well was research-based and data-driven. *Read Well* has reflected the research base in early reading acquisition established in the findings of Adams (1990) and more currently, in the findings of the National Research Council ("Research," 2006). In order for students to have mastered literacy skills, *Read Well* has integrated explicit, systematic instruction, intense themes and content, and structured learning activities (Sprick, 2006).

Walk to Read was an instructional approach in first grade through fourth grade at the elementary school. Four teachers participated in the Walk to Read program at the first grade level. In the Walk to Read program, students were grouped by ability levels and were from multiple classrooms. Each morning at a

specific time, the students were gathered together in specific classrooms for instruction based on the students' reading levels.

Research has suggested ability grouping produced greater achievement gains when students from the same grade level were grouped by ability for reading instruction such as Walk to Read. Achievement was successful when the level and pace of instruction were adapted to students' needs and students were not regrouped for more than two subjects (Westchester Institute for Human Services Research, 2002).

Harcourt Brace was a reading program implemented in grades first through fifth. In first grade, *Harcourt Brace* was implemented after the students had graduated from the *Read Well* program. In second grade through fifth grade, *Harcourt Brace* was integrated as the key reading curriculum.

The reading program titled, *Harcourt Trophies*, was a research-based, developmental reading and language arts program. *Harcourt Trophies* implemented specific skills to ensure successful reading for every student. The skills included "explicit phonics instruction, direct reading instruction, guided reading strategies, phonemic awareness instruction, systematic, intervention strategies, integrated language arts components, and state-of-the-art assessment tools" ("Harcourt Trophies," 2006, ¶ 1).

Statement of the Problem

The author researched the effects of progress monitoring intervention. The below benchmark students received progress monitoring intervention from January 2006 to May 2006. The growth of the below benchmark students was compared to the growth of the benchmark students.

Purpose of the Project

The purpose of the project was to analyze the amount of growth the below benchmark students made when the students received progress monitoring compared to the growth of the benchmark students not receiving progress monitoring. Progress monitoring focused on the area of nonsense word fluency. The author predicted the progress monitoring intervention helped the below benchmark students achieve greater than expected growth.

Delimitations

The author was conducting the study on a small number of students. The project was comprised of six benchmark students and eleven below benchmark students for a total of seventeen students. These students were originated from the author's classroom.

The author had chosen to conduct the study from winter to spring rather than fall to winter. From fall to winter, the first grade students needed time to become acquainted with the teacher, classroom, and peers. Based on the students' maturity levels, the author had decided to implement the study from winter to

spring. Another reason the author had chosen this time frame was based on the students' amount of growth from winter to spring.

Another delimitation involved where the students were assessed. For the winter assessment, the students were assessed in different corners of a classroom. For the spring assessment, the students were assessed in the gym with dividers. The *DIBELS* assessment involved individual sub-tests. The individual sub-tests allowed the students one minute to read as much as possible. Since the students were timed on specific sub-tests at different times, there were many timers beeping during various periods. In a compacted environment, such as a classroom, the timers caused the students to become more easily distracted. On the other hand, the gym had a more open environment and there were dividers around the students. The students were less likely to become distracted in the gym compared to the classroom.

The students were assessed by a different group of educators on the winter assessment and spring assessment. On the winter assessment, the students were assessed by five 1st grade teachers and one reading specialist from the school. The author helped conduct the assessment as a first grade teacher. On the spring assessment, the students were assessed by a group of nine retired teachers.

The materials available to the author included one progress monitoring nonsense word fluency student booklet, individual student booklets to record progress monitoring data, timer, clipboard, and pencil. One important factor was

the training the teachers received from the reading specialist on how to administer progress monitoring and the *DIBELS* assessment. The training occurred about one week before the teachers gave the winter assessment to the students. The reading specialist provided many materials and resources for the teachers such as a book titled, "*I've DIBEL'd, Now What?*" The teachers were able to use this book as a guide to answer any questions or concerns about progress monitoring or the *DIBELS* assessment.

Assumptions

The author knew the first graders well enough and had administered many different assessments on the students to know what interventions were appropriate for each individual child. Once the author examined and analyzed the different assessments, the author was able to group the students accordingly for progress monitoring intervention. The author was trained on the curriculum and was appropriately using the material in the classroom. All of the first grade teachers were trained on how to administer progress monitoring within the classroom. The first grade teachers were also trained on administering the *DIBELS* assessment to students. The staff understood the students needed a quiet environment during progress monitoring and the *DIBELS* assessment.

Hypothesis or Research Question

First grade below benchmark students receiving progress monitoring intervention in the area of nonsense word fluency will make greater than expected growth from winter to spring as measured by the *DIBELS* assessment.

First grade below benchmark students receiving progress monitoring intervention in the area of nonsense word fluency will make greater than expected growth from winter to spring as measured by the *DIBELS* assessment when compared to the benchmark students not receiving progress monitoring.

Null Hypothesis

First grade below benchmark students receiving progress monitoring intervention in the area of nonsense word fluency will not make greater than expected growth as measured by the *DIBELS* assessment.

First grade below benchmark students receiving progress monitoring intervention in the area of nonsense word fluency will not make greater than expected growth from winter to spring as measured by the *DIBELS* assessment when compared to the benchmark students not receiving progress monitoring.

Significance of the Project

The author realized the importance for students to learn beneficial reading skills throughout the early years of school. The author knew first grade was a time for students to blossom into fluent readers. At the beginning of first grade, students were introduced to basic literacy skills such as how to blend and segment sounds in words. Toward the end of the year, first grade students were expected

to read passages at a fluency rate of 40 words correct per minute. These skills were important for first graders to achieve in order to enter second grade at benchmark. The amount of reading growth students were required to make included the accomplishment of all basic literacy skills needed to become a successful, fluent reader.

Procedure

The author examined the students' *DIBELS* scores from January 2006. When the data was analyzed, the author realized how many students were below benchmark in the area of nonsense word fluency. There were eleven students below benchmark and six students at or above benchmark. The eleven students below benchmark received progress monitoring.

The assessments for *DIBELS* progress monitoring were administered to students below benchmark. If students received scores below benchmark, the scores indicated the students were at risk. The at-risk students needed to receive intervention instruction. The data from progress monitoring allowed teachers to make decisions about whether the intervention of progress monitoring was successful for students or whether students needed a different type of intervention (Hall, 2006).

The development of the instruments used to gather data included preparing materials before progress monitoring began. The teacher created a progress monitoring nonsense word fluency student booklet. The booklet contained twenty

different nonsense word fluency tests. The teacher also made individual student booklets to record progress monitoring data. When the teacher administered progress monitoring, a timer, clipboard, and pencil were also needed.

Progress monitoring intervention started in January 2006, with eleven students below benchmark. The students were progress monitored once every two weeks until the end of May 2006. The author analyzed the data to determine if students were making adequate growth and progress. If the students were not making adequate growth through progress monitoring, then the teacher made a decision to implement another intervention along with progress monitoring.

Progress monitoring continued for about four months until the students were given the spring *DIBELS* assessment. Once the students' scores from the spring *DIBELS* assessment were available, the author analyzed and examined the data to determine the outcome of the hypotheses. The author compared the winter and spring *DIBELS* scores of the below benchmark students to the benchmark students by completing a *t*-test.

Definition of Terms

ability grouping. "Ability grouping is the practice of dividing students for instruction on the basis of their perceived capacities for learning" (Westchester Institute for Human Services Research, 2002, p. 1).

below benchmark. Students have not met the goals on a specific assessment such as *DIBELS*.

benchmark. Students have met or exceeded the goals on a specific assessment such as *DIBELS*.

DIBELS. "*DIBELS* is an assessment instrument that measures how successfully a child is progressing in the critical skills that underlie success in early reading" (Hall, 2006, p. 30).

direct instruction. "Direct instruction is a model for teaching that emphasizes well-developed and carefully planned lessons designed around small learning increments and clearly defined and prescribed teaching tasks" (National Institute for Direct Instruction, 2006, p. 1).

Harcourt Brace. "*Harcourt Brace* presents explicit, systematic instruction linked with literature and structured spelling and grammar skills" (Gable, Hansen, & Ruff, 2004, p. 2).

nonsense word fluency. "Nonsense word fluency is the ability to read two-letter and three-letter nonsense words, primarily consonant-vowel-consonant patterns" (Hall, 2006, p. 37).

progress monitoring. "Progress monitoring is assessments that determine if students are making adequate progress or need more intervention to achieve grade level reading outcomes" (Hall, 2006, p. 33).

Read Well. "*Read Well* is a validated core reading curriculum that teaches students the important building blocks of literacy while providing the foundation and skills to develop lifelong readers" (Sprick, 2006, p. 1).

Acronyms

AYP. Adequate Yearly Progress

DIBELS. Dynamic Indicator of Basic Early Literacy Skills

ESL. English as a Second Language

NCLB. No Child Left Behind

WASL. Washington Assessment of Student Learning

CHAPTER 2

Review of Selected Literature

Introduction

The author chose to discuss four subsets: No Child Left Behind, Reading Research: National Reading Panel, *DIBELS*, and Intervention. Within the first subset, the author described the definition of NCLB and the various goals related to NCLB. Also, under the NCLB Act, the author discussed the importance of reading skills in the early years of school. The author discussed the reading research of the National Reading Panel in the second subset. The author analyzed and examined the National Reading Panel's research on phonemic awareness instruction and phonics instruction. Within the third subset, the author talked about the *DIBELS* measure of nonsense word fluency and the assessment of nonsense word fluency. In the last subset, the author talked about progress monitoring as an intervention tool regarding the *DIBELS* assessment.

No Child Left Behind (NCLB)

> "The No Child Left Behind Act of 2001 embodies the four principles of President George W. Bush's education reform plan: stronger accountability for results, expanded flexibility and local control, expanded options for parents, and an emphasis on teaching methods that have been proven to work" ("Fact Sheet on the Major Provisions of the Conference Report to H.R. 1, the No Child Left Behind Act," 2006, p. 1).

The act's goals consisted of providing a better education to every student, including the typically lower performing poor and minorities and raised standards for every child while focusing on meeting the needs of disadvantaged children. The act's goals also focused on having a well qualified teacher in every classroom, as well as providing extra support for low-performing students. Also, incentives were offered for turning around schools in need of improvement (McElroy, 2005).

Research has proven children were more successful in the later years of school when the children were able to read well in the early grades. When children were not successful in reading throughout the early years of school, the children were likely to fall behind and stay behind in the area of academic achievement. Young, proficient readers were more likely to succeed in other subject areas such as math, history, science, literature, geography, and much more. Skillful readers have taken advantage of reading for pleasure and have developed confidence in reading. Inexperienced readers were more likely to drop out of school and were limited to low-paying jobs ("Questions and Answers on No Child Left Behind-Reading," 2006).

Reading Research: National Reading Panel

The instruction of phonemic awareness involved children being taught to focus on and manipulate phonemes in spoken syllables and words. Phonemic awareness instruction qualified as phonics instruction when children were taught

to blend or segment the sounds in words using letters. Phonemic awareness instruction was reviewed and analyzed by the National Reading Panel through correlation studies. The studies recognized phonemic awareness and letter knowledge as the two greatest school-entry predictors of how well children will learn to read during the first two years of instruction (National Institute of Child Health and Human Development, 2000).

The results of the analysis were remarkable. The findings of the study demonstrated when children were taught to manipulate phonemes in words as part of phonemic awareness instruction, the results indicated a significant improvement in reading (National Institute of Child Health and Human Development, 2000).

Phonics instruction entailed the way of teaching reading involving the acquirement of letter-sound correspondences and the use of letter-sound correspondences in reading and spelling. Phonics instruction allowed beginning readers to understand how letters were linked to sounds (phonemes) to form letter-sound correspondences and spelling patterns. Beginning readers learned how to apply the knowledge of letter-sound correspondences in reading. Phonics instruction should be integrated with additional reading instruction in phonemic awareness, fluency, and comprehension strategies to build a complete reading program (National Institute of Child Health and Human Development, 2000).

The findings from the National Reading Panel study of phonemic awareness instruction indicated how systematic phonics instruction improved children's success in learning to read. Systematic phonics instruction was considerably more effective than instruction involving little or no phonics (National Institute of Child Health and Human Development, 2000).

DIBELS

The *DIBELS* measure of nonsense word fluency provided information about a student's skill in phonics. Nonsense words were used to examine whether children applied sound-symbol knowledge in sounding out a word. Real words were not used for the purpose of sound-symbol knowledge in sounding out a word on an assessment regarding the uncertainty of a child previously memorizing the real words. By reading nonsense words fluently and accurately, children were more likely to read real words well. The objective of reading nonsense words involved building fluency while blending sound-symbol relationships using letter patterns. Reading a nonsense word from sight could be impossible when compared to reading a previously memorized sight word (Hall, 2006).

The strongest predictor in *DIBELS* of whether a student read forty words per minute at the end of first grade involved the student's ability to decode nonsense words in the middle of first grade. A child must be able to read fifty letter graphemes or more in one minute to achieve the goal in the middle of first grade for nonsense word fluency. The child would be considered reading at

benchmark for the measure of nonsense word fluency. If a student in the middle of first grade has reached the established goal of reading fifty letter graphemes or more correct per minute, where the vowels were represented as the short sound in nonsense words, the probability of a student reading a passage at benchmark level at the end of first grade would be extremely high (Hall, 2006).

Intervention

The Reading First Assessment Committee provided a definition of progress monitoring, as follows: "Assessments that determine if students are making adequate progress or need more intervention to achieve grade level reading outcomes" (U.S. Department of Education, 2002, p. 153).

Progress monitoring measures were responsive to growth and required multiple forms. Progress monitoring incorporated the appropriate requirements necessary for kindergarten and first grade. After the first semester of first grade, teachers have become interested in monitoring students' progress and simplifying phonemic awareness to reading and spelling. Oral reading fluency and nonsense word fluency were two other *DIBELS* measures of reading integrating the sensitivity to growth and change over a short period of time (Chard & Dickson, 1999).

DIBELS progress monitoring assessments were administered to students receiving a benchmark screening indicating the students were at some level of risk. As a result, the students received intervention instruction. Progress

monitoring was repeated as often as weekly; however, most teachers assessed the intervention students every two to three weeks (Hall, 2006).

The author reviewed the validity and reliability of the *DIBELS* assessment.

> "The measures were developed upon the essential early literacy domains discussed in both the National Reading Panel (2000) and National Research Council (1998) reports to assess student development of phonological awareness, alphabetic understanding, and automaticity and fluency with the code. Each measure has been thoroughly researched and demonstrated to be reliable and valid indicators of early literacy development and predictive if later reading proficiency to aid in the early identification of students who are not progressing as expected. When used as recommended, the results can be used to evaluate individual student development as well as provide grade-level feedback toward validated instructional objectives" (Hintze, Ryan, & Stoner, p.18).

The data from progress monitoring helped teachers make professional judgments about whether the intervention instruction should be continued or modified. Progress monitoring as an assessment tool helped teachers determine in the beginning weeks of instruction whether the strategies and materials the teachers selected were helping the student succeed. If the intervention was not working, then the teacher was able to make adjustments immediately, rather than waiting until the end of the school year to measure the level of achievement.

Adjusting the intervention instruction was critical regarding the amount of time the student had to reach the benchmark level. By charting a student's progress, the teacher estimated whether the current rate of progress resulted in the student reaching benchmark level at the end of the year (Hall, 2006).

Summary

The author reviewed numerous important pieces of literature. One of the pieces of literature suggested children were more successful in the later years of school when the children were able to read well in the early grades. When children were not successful in reading throughout the early years of school, the children were likely to fall behind and stay behind in the area of academic achievement.

Another piece of literature reviewed by the author demonstrated the importance of children being taught to manipulate phonemes in words as part of phonemic awareness instruction. The findings of the research study indicated a significant improvement in reading.

An additional piece of literature discussed when children were able to read nonsense words fluently and accurately, then the children were more likely to read real words well. The objective of reading nonsense words involved building fluency while blending sound-symbol relationships using letter patterns.

When reviewing literature about *DIBELS* progress monitoring, the author identified how progress monitoring assessments were administered to students

receiving a benchmark screening indicating the students were at some level of risk. The literature also suggested when progress monitoring was used as an assessment tool, the data helped teachers determine in the beginning weeks of instruction whether the strategies and materials the teachers selected were helping the student succeed.

CHAPTER 3

Methodology and Treatment of Data

Introduction

For the study, the author conducted a pretest/posttest for the quasi-experimental research method. The author included a total of 17 first grade students for the study. The author looked at the below benchmark student's scores on the *DIBELS* measure of nonsense word fluency and studied the amount of growth from the pretest to the posttest. The author then reviewed the benchmark student's scores and analyzed the amount of growth from the pretest to the posttest. The below benchmark students received progress monitoring intervention from January 2006 to May 2006. After the intervention, the author analyzed the amount of growth from the pretest to the posttest of the below benchmark students compared to the benchmark students.

Methodology

The author conducted the study and used the experimental research method. "In experimental research, the researcher manipulates at least one independent variable, controls other relevant variables, and observes the effect on one or more dependent variables" (Airasian, Gay, & Mills, 2006, p. 233).

Participants

The author performed the study on a total of 17 first grade students. The project was comprised of six benchmark students and eleven below benchmark

students for a total of seventeen students. These students originated from the author's classroom.

Instruments

The materials available to the author included one progress monitoring nonsense word fluency student booklet. The booklet contained twenty different nonsense word fluency tests. Other data gathering devices also needed were individual student booklets to record progress monitoring data, timer, clipboard, and pencil.

The *DIBELS* assessment was a nationally norm-referenced test. According to Good, Gruba, and Kaminski (2001), evidence of reliability and validity for the *DIBELS* assessment was investigated in a series of studies (Good, Gruba, & Kaminski, 2001, p. 283).

Design

The specific kind of design the author used for the experimental study included a pretest/posttest. The pretest was conducted in January 2006 (winter) and the posttest was given in May 2006 (spring). The below benchmark students received progress monitoring intervention from January 2006 to May 2006. After the intervention of progress monitoring, the author wanted to analyze the data and compare the growth from the pretest to the posttest of the below benchmark students as well as compare the growth from the pretest to the posttest of the benchmark students.

Procedure

The author examined the students' winter *DIBELS* scores from January 2006. When the data was analyzed, the author realized how many students were below benchmark in the area of nonsense word fluency. There were eleven students below benchmark and six students at or above benchmark. The eleven students below benchmark received progress monitoring.

The assessments for *DIBELS* progress monitoring were administered to students below benchmark. If students received scores below benchmark, the scores indicated the students were at risk. The at-risk students needed to receive intervention instruction. The data from progress monitoring allowed teachers to make decisions about whether the intervention of progress monitoring was successful for students or whether students needed a different type of intervention (Hall, 2006).

Progress monitoring intervention started in January 2006, with eleven students below benchmark. The students were progress monitored once every two weeks until the end of May 2006. The author analyzed the data to determine if students were making adequate growth and progress. If the students were not making adequate growth through progress monitoring, then the teacher made a decision to implement another intervention along with progress monitoring.

Progress monitoring continued for about four months until the students were given the spring *DIBELS* assessment. Once the students' scores from the

spring *DIBELS* assessment were available, the author analyzed and examined the data to determine the outcome of the hypotheses.

Treatment of the Data

The data was treated statistically by completing a *t*-test from the Stat Pak. The author analyzed the pretest and posttest scores for the below benchmark students and examined the amount of growth the students made from winter to spring. Then, the author reviewed the pretest and posttest scores for the benchmark students and studied the amount of growth from the winter assessment to the spring assessment.

Summary

The author conducted an experimental research method and included a pretest/posttest for the quasi-experimental study. The author implemented an intervention of progress monitoring for the below benchmark students from January 2006 to May 2006. The author examined the below benchmark student's scores on the *DIBELS* measure of nonsense word fluency and studied the amount of growth from the pretest to the posttest. The author then reviewed the benchmark student's scores and analyzed the amount of growth from the pretest to the posttest.

CHAPTER 4

Analysis of the Data

Introduction

The author described the parameters of the environment. The author restated the hypotheses and the null hypotheses. For the results of the study, the author displayed the data and provided a table. The table included the students' pretest and posttest scores. The table stated the amount of growth the below benchmark and benchmark students made from winter to spring on the *DIBELS* measure of nonsense word fluency. The author analyzed and discussed the findings from the *t*-tests for the below benchmark students receiving progress monitoring and the benchmark students not receiving progress monitoring.

Description of the Environment

One of the parameters of the project involved the author conducting the study on a small number of students. The project was comprised of six benchmark students and eleven below benchmark students for a total of seventeen students. These students were originated from the author's classroom.

The author had chosen to conduct the study from winter to spring rather than fall to winter. Based on the students' maturity levels, the author had decided to implement the study from winter to spring. Another reason the author had chosen this time frame was based on the students' amount of growth from winter to spring.

Another parameter of the project involved where the students were assessed. For the winter assessment, the students were assessed in different corners of a classroom. For the spring assessment, the students were assessed in the gym with dividers. Since the students were timed on specific sub-tests at different times, there were many timers beeping during various periods. In a compacted environment, such as a classroom, the timers caused the students to become more easily distracted. On the other hand, the gym had a more open environment and there were dividers around the students. The students were less likely to become distracted in the gym compared to the classroom.

The students were assessed by a different group of educators on the winter assessment and spring assessment. On the winter assessment, the students were assessed by five 1st grade teachers and one reading specialist from the school. The author helped conduct the assessment as a first grade teacher. On the spring assessment, the students were assessed by a group of nine retired teachers.

The materials available to the author included one progress monitoring nonsense word fluency student booklet, individual student booklets to record progress monitoring data, timer, clipboard, and pencil. One important factor was the training the teachers received from the reading specialist on how to administer progress monitoring and the *DIBELS* assessment. The training occurred about one week before the teachers gave the winter assessment to the students. The reading specialist provided many materials and resources for the teachers such as

a book titled, "*I've DIBEL'd, Now What?*" The teachers were able to use this book as a guide to answer any questions or concerns about progress monitoring or the *DIBELS* assessment.

Hypothesis/Research Question

First grade below benchmark students receiving progress monitoring intervention in the area of nonsense word fluency will make greater than expected growth from winter to spring as measured by the *DIBELS* assessment.

First grade below benchmark students receiving progress monitoring intervention in the area of nonsense word fluency will make greater than expected growth from winter to spring as measured by the *DIBELS* assessment when compared to the benchmark students not receiving progress monitoring.

Null Hypothesis

First grade below benchmark students receiving progress monitoring intervention in the area of nonsense word fluency will not make greater than expected growth as measured by the *DIBELS* assessment.

First grade below benchmark students receiving progress monitoring intervention in the area of nonsense word fluency will not make greater than expected growth from winter to spring as measured by the *DIBELS* assessment when compared to the benchmark students not receiving progress monitoring.

Results of Study

Table 1.

t-test of Pre-Post Test Results for Below Benchmark Students

Test	N	Mean	Standard Deviation
Pre	11	35.73	7.66
Post	11	60.36	13.14

df = 10 t = 5.79 p <.05

The author examined the data of the below benchmark students receiving progress monitoring in the area of nonsense word fluency. The author gathered the pretest and the posttest scores from the winter and spring *DIBELS* measure of nonsense word fluency. The author then examined the amount of growth the below benchmark students made from the pretest to the posttest. The author used the data to conduct a *t*-test.

When the author conducted a *t*-test for the below benchmark students receiving progress monitoring, the *t*-value was 5.79 and the degrees of freedom were 10. The *t*-value was significant beyond the .05 level. The amount of growth the below benchmark students made receiving progress monitoring was significant.

The null hypothesis was rejected. When the author analyzed the data for the below benchmark students receiving progress monitoring intervention, the

data supported the hypothesis. The below benchmark students made greater than expected growth from winter to spring as measured by the *DIBELS* assessment.

Table 2.

t-test of Amount of Growth for Below Benchmark and Benchmark Students

Test	N	Mean	Standard Deviation
Below Benchmark	11	27.10	11.51
Benchmark	6	13.67	24.72

df = 14 t = 1.38 p >.05

The author then conducted another *t*-test for the amount of growth of the below benchmark students and the amount of growth of the benchmark students. The author subtracted the pretest scores from the posttest scores and calculated the amount of growth.

After the *t*-test was conducted, the author analyzed the results of the data. The *t*-value was 1.38 and the degrees of freedom were 14. The *t*-value of 1.38 was not significant at the .05 level. The amount of growth the below benchmark students made compared to the benchmark students was not significant.

The null hypothesis was accepted. When the author analyzed the data for the amount of growth the below benchmark students made compared to the growth of the benchmark students, the data did not support the hypothesis. The below benchmark students receiving progress monitoring did not make greater

than expected growth when compared to the benchmark students not receiving progress monitoring.

Findings

One hypothesis was supported and one hypothesis was not supported when the author analyzed the data of the findings. The author analyzed the data for the below benchmark students receiving progress monitoring intervention. The data supported the hypothesis. When the author analyzed the data for the amount of growth the below benchmark students made compared to the growth of the benchmark students, the data did not support the hypothesis.

The below benchmark students receiving progress monitoring made better than expected growth. The results of the *t*-test stated there was a significant difference in the amount of growth the below benchmark students made when receiving progress monitoring. The null hypothesis was rejected.

The author analyzed the findings of the *t*-test for the amount of growth the below benchmark students made compared to the growth of the benchmark students. The findings concluded there was no significant difference in the amount of growth the below benchmark students made compared to the benchmark students. The null hypothesis was accepted.

Discussion

The author analyzed the data from the *t*-tests. The author concluded from the data and analysis there was a significant difference in the amount of growth

the below benchmark students made when receiving progress monitoring. The author found there was no significant difference in the amount of growth the below benchmark students made compared to the growth of the benchmark students.

There was not a significant difference in the amount of growth the below benchmark students made when compared to the benchmark students because the benchmark students received higher pretest scores than the below benchmark students. The author concluded the benchmark students were higher to begin with than the below benchmark students. As a result, the below benchmark students did not make greater than expected growth when compared to the benchmark students.

Summary

The author discussed the parameters of the environment in the beginning of the chapter. The author restated the hypotheses and the null hypotheses. The results for the non-independent *t*-test stated there was a significant difference in the amount of growth the below benchmark students made when receiving progress monitoring. The hypothesis was supported. The author analyzed the findings for the independent *t*-test for the amount of growth the below benchmark students made when compared to the growth of the benchmark students. The findings concluded there was no significant difference in the amount of growth

the below benchmark students made compared to the benchmark students. The hypothesis was not supported.

CHAPTER 5

Summary, Conclusions and Recommendations

Introduction

The author reviewed the project. The author provided the important aspects of the project and highlighted the main points for each chapter. The author discussed the main features of the project in the summary. The author talked about the conclusions based on the findings of the table. A set of recommendations were given from the author derived from the conclusions.

Summary

The author researched the effects of progress monitoring intervention. The below benchmark students received progress monitoring intervention from January 2006 to May 2006. The growth of the below benchmark students was compared to the growth of the benchmark students.

The purpose of the project was to analyze the amount of growth the below benchmark students made when the students received progress monitoring compared to the growth of the benchmark students not receiving progress monitoring. Progress monitoring focused on the area of nonsense word fluency. The author predicted the progress monitoring intervention helped the below benchmark students achieve greater than expected growth.

Progress monitoring intervention started in January 2006, with eleven students below benchmark. The students were progress monitored once every

two weeks until the end of May 2006. The author analyzed the data to determine if students were making adequate growth and progress. If the students were not making adequate growth through progress monitoring, then the teacher made a decision to implement another intervention along with progress monitoring.

When reviewing literature about *DIBELS* progress monitoring, the author identified how progress monitoring assessments were administered to students receiving a benchmark screening indicating the students were at some level of risk. The literature also suggested when progress monitoring was used as an assessment tool, the data helped teachers determine in the beginning weeks of instruction whether the strategies and materials the teachers selected were helping the student succeed.

For the study, the author conducted a pretest/posttest for the experimental research method. The author included a total of 17 first grade students for the study. The data was treated statistically by completing a *t*-test from the Stat Pak. The author compared the growth of the winter and spring *DIBELS* scores of the below benchmark students to the benchmark students.

The author performed a *t*-test for the below benchmark students receiving progress monitoring. The analysis of the *t*-test stated a significant difference in the amount of growth the below benchmark students made when receiving progress monitoring. The author then conducted a second *t*-test for the amount of growth the below benchmark students made compared to the benchmark students.

The author analyzed the data and found no significant difference in the amount of growth the below benchmark students made when compared to the growth of the benchmark students.

Conclusions

The below benchmark students receiving progress monitoring made better than expected growth. The results for the non-independent *t*-test stated there was a significant difference in the amount of growth the below benchmark students made when receiving progress monitoring. The hypothesis was supported. The author analyzed the findings for the independent *t*-test for the amount of growth the below benchmark students made when compared to the growth of the benchmark students. The findings concluded there was no significant difference in the amount of growth the below benchmark students made compared to the benchmark students. The hypothesis was not supported.

Recommendations

Based on the conclusions, the author will give a set of recommendations regarding the study. The author suggests the intervention of progress monitoring is a valid and reliable assessment. When progress monitoring the below benchmark students on a consistent basis, the students will achieve at a higher rate based on the scores on the *DIBELS* assessment. As for the amount of growth the below benchmark students made compared to the benchmark students, the author recommends analyzing the benchmark students' scores compared to the below

benchmark students' scores. This is important because the benchmark students will most likely have higher pretest scores than the below benchmark students. In this case, the data from the *t*-test will state there is no significant difference between the amount of growth the below benchmark students made compared to the benchmark students.

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APPENDIX

Data on DIBELS Assessment
DIBELS Measure: Nonsense Word Fluency
Benchmark Goal = 50

Below Benchmark Students with Progress Monitoring

	Winter	Spring	Amount of Growth
1	43	84	41
2	27	54	27
3	29	75	46
4	49	49	0
5	31	48	17
6	39	53	14
7	30	54	24
8	42	65	23
9	36	80	44
10	43	59	16
11	24	43	19

Benchmark Students without Progress Monitoring

	Winter	Spring	Amount of Growth
1	54	68	14
2	65	70	5
3	52	112	60
4	51	47	-4
5	113	138	25
6	59	41	-18