

Effect of Reading Intervention with
Below Grade Level Students in the Fourth Grade

A Special Project

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FACULTY APPROVAL

Effect of Reading Intervention with
Below Grade Level Students in the Fourth Grade

Approved for the Faculty

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ABSTRACT

The purpose of the project was to examine the effect of reading intervention with below grade level students in the fourth grade using the Three Tier Model of instruction. The students identified at-risk or below grade level determined by the Measures of Academic Progress fall reading assessment received daily instruction in the Three Tier Model. A winter assessment was administered. Growth was achieved for all students in the study. The results supported the hypothesis that five days of reading intervention using the Three Tier Model of instruction increased reading scores on the Measures of Academic Progress assessment.

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CHAPTER 1

Introduction

Background for the Project

The author's school experienced change in the reading curriculum in 2006. The school implemented the popular Three Tier Model of instruction which used educational assistants in the classroom. The Three Tier Model of instruction consisted of Tier I instruction provided by the classroom teacher, Tier II instruction provided by the teacher with additional support from an educational assistant, and Tier III instruction provided by the special education teacher or additional support with an educational assistant.

All students enrolled in the school where the research took place, were individually administered a computerized assessment called Measures of Academic Progress for reading, in the fall and again in the spring. Students at risk also received a winter assessment.

The author's School Improvement Plan stated that ninety percent of students that have attended the same school since kindergarten through second grade will read at or above grade level. With this objective, attention was brought to the existing reading program which was reconstructed. The Three Tier Model was adopted.

Statement of the Problem

Students, who read below grade level in the past, were pulled out of the classroom for additional support services, and generally received instruction not connected to the classroom instruction. Students below grade level rarely progressed in reading abilities, and continued to fall farther behind. Students' performance in academics and morale deemed higher when instruction was obtained from the general education teacher, and

supplemented by additional assistance. According to Allington (2006) “struggling readers need larger amounts of more expert, more personalized, and more intensive reading instruction” (p. 2). At the author’s school, when the Three Tier Model of instruction was implemented, students received such instruction. The Three Tier Model was chosen and used to bridge the Measure of Academic Progress to the Washington Assessment of Student Learning in an effort to achieve adequate yearly progress.

Purpose of the Project

The purpose of the project was to examine whether the Three Tier Model of instruction improved reading scores on the Measures of Academic assessment when used five days a week. In addition to the Three Tier Model, a third assessment of the computerized program would be administered in the winter. In the past, only two tests had been given to students per year, fall and spring. This would be the first year a winter assessment was involved. The mid year assessment would provide immediate results as to whether the intervention was successful as determined by the test scores and whether or not progress had been achieved.

Delimitations

The research took place in a fourth and fifth grade combination class in an elementary school in eastern Washington. The samples for this study were five fourth grade students that tested below grade level on the fall reading Measures of Academic Progress assessment. The samples are English speaking, Caucasians, four female and one male. The newly adopted reading curriculum, Houghton Mifflin, was used as instructional material. A reading block schedule was created which allowed the students

to work with the same Title I assistant every day. The Measures of Academic Progress was used for assessment.

Assumptions

The classroom teacher involved with the study had a bachelor's of education degree with seven years of teaching experience. Additional professional development in the subject area of reading was sought and obtained through district workshops and college courses. The educational assistant who participated in the study received training in the new reading curriculum prior to implementation of the program. The classroom teacher and assistant met for weekly collaboration.

Hypothesis

Students below grade level in reading given five days of reading intervention using the Three Tier Model of instruction will score higher on the winter reading Measures of Academic Progress assessment than on the fall Measures of Academic Progress assessment.

Null Hypothesis

Students below grade level in reading given five days of reading intervention using the Three Tier Model of instruction will not score higher on the winter reading Measures of Academic Progress assessment than on the fall Measures of Academic Progress assessment.

Significance of the Project

The significance of the project was to see if the Three Tier Model of intervention would improve reading success as measured by the Measures of Academic Progress assessment. In previous experience, Title I intervention which involved students pulled

out of the classroom, had shown little, if any, progress in students that struggled in reading. The learning of Title I students was fragmented which hindered growth. Also, students showed more interest when taught with peers having received the same instructional lessons and activities.

Procedure

All twenty-six students in the combination classroom were given the Measures of Academic Progress assessment in reading on October 6, 2006. Five students were identified as being at-risk based on individual Rasch Unit scores, and selected for the study. Five days per week, all students in the classroom received instruction from the teacher (Tier I). Lessons included whole group reading and discussion of strategies. The educational assistant followed with specialized instruction for the five students selected for the study (Tier II). The small group worked on practicing the skills and strategies learned in the whole group setting. The smaller group allowed the students to work at a much slower pace and permitted opportunities for risk taking in a less threatening environment. The assistant monitored and adjusted the needs of the group. The five students also worked in guided reading books suited to their level. Throughout the study, if any of the five students struggled or fell behind in their seat work, they received additional support time (Tier III). On February 22, 2007, the five students in the study were given the Measures of Academic Progress reading assessment.

Definition of Terms

at-risk students. Students identified as below grade level 6 months or greater are considered at risk

educational assistant. Classified staff hired to work with students in conjunction with the classroom teacher are educational assistants.

measures of academic progress. Measures of Academic Progress is a computerized assessment given in the subject areas of math, reading, and science.

Rasch unit scores. A measurement scale that aligned student achievement levels with item difficulties on the same scale and was designed by statistician Georg Rasch.

school improvement plan. A school improvement plan was created to describe the vision of the school for raising student achievement

title I. A federal program designed to improve academic achievement of the disadvantaged.

three tier model of instruction. The Three Tier Model of Instruction served as a form of intervention that utilized the classroom teacher and educational assistant in conjunction for specialized instruction of students at-risk.

Acronyms

AYP. Adequate Yearly Progress

EA. Educational Assistant

MAP. Measurement of Academic Progress

NCLB. No Child Left Behind act of 2001

RIT. Rasch Unit

WASL. Washington Assessment of Student Learning

CHAPTER 2

Review of Selected Literature

Introduction

The Three Tier Model was adopted as an intervention program for students at-risk who've not made Adequate Yearly Progress (AYP) as suggested by the No Child Left Behind act of 2001 (NCLB). Increased time in the classroom, instructed by the classroom teacher, supported by an educational assistant, and focused, specialized instruction was the goal. When goals were met, MAP and Washington Assessment of Student Learning (WASL) scores were expected to increase. The author selected literature to be reviewed that addressed the Three Tier Model, MAP assessment, and Title I program.

Three Tier Model

Research showed that when children received instruction that was coordinated in the classroom with Title I-funded remedial instruction, progress was achieved. In a study by Geoff Borman and his colleagues (Erlbaum as cited in Allington, 2006) “they found that when remedial reading teachers and classroom teachers used a reading curriculum that was the same or similar, they increased the achievement levels of all students and reduced the achievement gap between struggling readers and their normally progressing peers” (p. 7).

MAP Assessment

A state-aligned, computerized adaptive assessment program that provided the author with individualized student feedback was the measurement tool used in the study. Each student received a score immediate upon completion of the test. Performance data

was available within one day and achievement and summary reports were available within three days from the test date. The research study also confirmed the statement by Kingsbury and Hauser (204) of the importance of computerized test results being used to inform instruction. The quick turn around in test results has made the MAP assessment popular among school districts. The information from the MAP test enabled teachers to move all students forward determined by individual strengths and weaknesses. Computerized test scores identified proficiency categories and achievement growth, and informed instruction (Kingbury & Hauser, 2004).

Title I

“The purpose of this title is to ensure that all children have a fair, equal, and significant opportunity to obtain a high-quality education” (OSPI, 2007). Having eliminated pull-out programs for underachieving students, students are guaranteed the same educational opportunities as peers. The school chosen for the study created a reading block, coordinated with the Title I schedule. Each student received reading instruction from their basic education teacher (Tier I), interventions (Tier II), and intensive intervention (Tier III). Educational Assistants (EA’s) employed with Title I, received training in the newly adopted curriculum and the Three Tier Model. Title I assistants cooperated and collaborated with the classroom teacher regarding instructional strategies and lessons. Specialized Tier II and Tier III instruction received within the classroom by the same EA every day supported the work of many researchers. “A more intensive version of the current curriculum is needed, matched to their level of reading. Such children need smaller group reading time and more of the available tutoring time” (Duke & Pressley, 2005, p. 23).

Summary

Research has shown that when at-risk students received reading intervention that was aligned with classroom instruction, MAP and WASL test scores were expected to increase. The Three Tier Model provided a fair and equitable environment therefore closing the gap between at-risk students and peers.

Chapter 3

Methodology and Treatment of Data

Introduction

The Three Tier Model was adopted to enhance the current reading curriculum. At-risk students were identified at the beginning of the year which allowed classroom teacher and EA to work closely together to achieve a successful learning environment. The desired outcome was an alignment between the general education classroom and Title I instruction which would increase student performance and improve MAP scores.

Methodology

Author's method of research is quantitative. The independent variable is the five days of reading invention, and the dependent variable is the MAP test scores. The hypothesis is one-tailed.

Participants

The samples for this study were five fourth grade students that tested below grade level on the fall reading MAP assessment. The samples were Caucasian, four female, and one male.

Instruments

The Measurement of Academic Progress (MAP) was used as the measuring instrument for this study. MAP is a state-aligned, computerized adaptive assessment program that provides educators with the information needed to improve teaching and learning. The test was taken in the library on laptops, and administered by the school counselor. Each student received a score immediately upon completion of the test.

Performance data was available within one day, and achievement and summary reports was available within three days.

The test appeared reliable and valid based on the information from the Northwest Evaluation Association (NWEA) website. NWEA assessments use a measurement scale that has proven to be exceptionally stable and valid over time. The scale is based on the same modern test theory that informs the Scholastic Achievement Test (SAT), Graduate Record Exam (GRE), and the Law School Admission Test (LSAT). “The benefit of this test theory is that it aligns student achievement levels with item difficulties on the same scale. The scale we use is divided into equal parts, like centimeters on a ruler. We call these parts RITs, which is short for Rasch Unit (after the test theory’s founder, Danish statistician Georg Rasch)” (Northwest Evaluation Association, 2007). This test also adapts to match the difficulty of the questions administered to the performance of each student taking the test therefore increasing testing efficiency.

Design

A pre-test and post-test was administered to all students in the fall and the spring using the MAP test. For students identified as at-risk, a third test was given in the winter.

Procedure

All fourteen fourth grade students took the fall reading MAP test on October 2, 2006. Five students were identified as being at-risk or below grade level with a RIT score below 201. From that point on, the Three Tier Model of instruction took place. Author’s EA, worked with the five identified at-risk students 45 minutes to an hour, daily in Tiers II and III.

On a daily basis, students received instruction from the classroom teacher in the textbook (Tier I), such as reading the story in a whole class setting and discussing strategies. Students next worked with the EA (Tier II) practicing the skills and strategies learned. The smaller group setting allowed students to work at a slower pace than the rest of the class. The EA was able to monitor and adjust assistance according to the needs of the students. The five students also worked in guided reading books. Throughout the study, if any of the five students appeared to be struggling or had fallen behind in work, additional support (Tier III) was provided. February 22, 2007, the five students in the study were given the reading MAP test again.

Treatment of the Data

Toward the end of the winter semester at the elementary school where the research took place, the five at-risk students were administered the MAP assessment. The fall and winter tests were compared using a t-test correlation table from the statistical software STATPAK (2007). The fall and winter tests were compared to see if significant progress and growth had been made using the Three Tier Model of instruction five days a week.

Summary

In previous years, little or no growth had occurred on MAP reading tests with Title I students. When growth was achieved, the problem of a fragmented curriculum still remained which created a disparity between at-risk students and peers. After four months of implementing the Three Tier Model, students in the study were given a winter MAP assessment to identify success of the program and individual strengths and weaknesses.

CHAPTER 4

Analysis of the Data

Introduction

All students received instruction from the teacher during the reading block. Lessons included whole group reading, discussion of strategies, and practicing of skills. While the rest of the class worked individually, the five students in the study continued practicing the skills and strategies learned in the whole group setting with the educational assistant. A winter MAP assessment was administered to the five at-risk students. Data was gathered and is presented in Table I.

Description of the Environment

Research was conducted and collected in a fourth and fifth grade combination classroom in an elementary school in eastern Washington. Five students identified as at-risk participated in the author's project. Students worked with the same EA every day. The MAP test was used for assessment.

Hypothesis

Students below grade level in reading given five days of reading intervention using the Three Tier Model of instruction will score higher on the winter reading MAP assessment than on the fall MAP assessment. The hypothesis was supported.

Null Hypothesis

Students below grade level in reading given five days of reading intervention using the Three Tier Model of instruction will not score higher on the winter reading MAP assessment than on the fall MAP assessment. The null hypothesis was rejected.

Results of the Study

The results of the winter reading MAP test scores resulted in significant progress, showing growth for all five students in the study. Test results were: Mean- 199.8, Median- 198, Range- 13, and Standard Deviation for a Sample- 5.31. A comparison between individual fall and winter RIT scores of each student in the study are presented in Table 1.

Table 1

Reading Map Test Scores for fall and winter 2006-07

Student	Fall Reading MAP RIT Score	Winter Reading MAP RIT Score	Student Growth
A	167	208	41
Z	182	198	16
N	187	195	8
J	189	202	13
C	192	196	4

Findings

These results support the hypothesis that five days of reading intervention will increase test scores on the computerized MAP test. The research study also confirms the statement by Kingsbury and Hauser (2004) of the importance of computerized test results being used to inform instruction. The quick turn around in test results is what makes the MAP test so popular. The information provided by the MAP test can enable teachers to move all students forward by providing information of each student's individual strengths and weaknesses (Kingsbury & Hauser, 2004).

Discussion

While the MAP test proves statistical evidence of growth, the educational difference is even greater. Skills and strategies that are first taught by the classroom teacher, and then supported by an EA through intervention, have carried over into all subject areas within the classroom. The fundamental skills that are needed for reading are needed in all subjects. Therefore, reading intervention is vital for students reading below grade level in order to provide them with the same advantages as their peers.

Summary

At the beginning of the school year, of the five students identified at-risk, one student, Student A, fell two standard deviations below the grade mean. Upon completion of the winter MAP, Student A was on grade level with a growth of 41 RIT points. The average RIT growth for the five students was 16.4, a significant number to support the need and importance for the Three Tier Model of instruction for reading intervention. Not only did the five students improve in reading, but the confidence and skills acquired during the 4 months of the study contributed to success in all subject areas.

CHAPTER 5

Summary, Conclusions and Recommendations

Introduction

The purpose of the study was to examine whether the Three Tier Model of instruction improved MAP reading scores when used five days a week. In addition to the two yearly MAP assessments, a third would be administered in the winter to struggling students.

Summary

Allington (2006) and his colleagues suggest that “placing at-risk students in two or more different reading curricula would have a less positive effect on student achievement than simply personalizing, extending, and intensifying the reading instruction offered in the classroom reading lesson” (p. 7). When classroom and remedial teachers use the same reading curriculum they increase the achievement levels and reduce the gap of struggling students and peers. The Three Tier Model eliminates instructional fragmentation therefore creating an environment conducive to growth and progress.

Conclusions

Based on the data, students reading below grade level who are given five days of intervention a week, improved from the fall reading MAP test to the winter reading Map test. While some students had significantly greater results in improvement of scores than others, everyone at least showed some growth and progress, confirming the hypothesis that intervention in reading instruction will improve test scores on the MAP test from fall to winter.

Recommendations

Recommendation to continue using an educational assistant for five days a week for Tiers II and III intervention will be shared with author's building supervisor. Since WASL scores and achieving AYP are a focus every year, the results of the progress achieved through raising MAP scores of at-risk students using the Three Tier Model, fits into researcher's School Improvement Plan.

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