2003

Reading Recovery

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READING RECOVERY

An Abstract of a Thesis
Submitted
In Partial Fulfillment
of the Requirements for the Degree
Educational Specialist

Wendy C. Williams
University of Northern Iowa
May 2003
ABSTRACT

Reading Recovery students' performance was compared to Title One and Comparison students' performance on the Iowa Test of Basic Skills, Curriculum Based Measurement reading probes, and teacher ranking. The following questions were addressed in order to answer the primary question, "Do Reading Recovery students maintain their reading gains when compared to other groups of students who did not participate in Reading Recovery?"

1. Does the number of Reading Recovery, Title One, and Comparison students who scored above the 40th percentile change from second through fifth grade?

2. Are there statistically significant differences in ITBS Total Reading scores between groups (i.e., Reading Recovery, Title One and Comparison) of students in second through fifth grade?

3. Are there differences in CBM scores between groups (i.e., Reading Recovery, Title One and Comparison) of students in third grade?

4. When comparing teacher rankings of reading skill, how do post Reading Recovery subjects in third grade compare to post Title One and Comparison subjects?

It was found that Reading Recovery students scored above Title One students and below Comparison students.
READING RECOVERY

A Thesis
Submitted
In Partial Fulfillment
of the Requirements for the Degree
Educational Specialist

Wendy C. Williams
University of Northern Iowa
May 2003
This study by: Wendy C. Williams

Entitled: Reading Recovery

has been approved as meeting the thesis requirements for

the Degree of Educational Specialist

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INTRODUCTION

Purpose

The purpose of this study was to compare Reading Recovery students to Title One and Comparison subjects, and Title One subjects to Comparison subjects across a variety of reading skill indicators. Various scores from the reading skill indicators were collected in order to determine whether there was a significant difference in Reading Recovery students' achievement after completing the Reading Recovery program. Reading scores of Reading Recovery were compared to Title One and Comparison student scores, and Title One student scores and Comparison (i.e., students who neither received Reading Recovery nor Title One services) subjects were compared.

This investigation has focused primarily on students who have successfully exited the Reading Recovery program. Advocates have maintained that students who successfully exit Reading Recovery programs are achieving at an average level in comparison classroom reading and writing (Lyons, 1991). Although evidence is scarce, advocates have stated that children who successfully exit the program continue their average reading and writing status without further intervention in later grade levels (Lyons, 1991).

Statement of the Problem

Although the literature has shown many advantages of Reading Recovery, it has not yet been established that this program, which emphasizes a phonics-
based approach (Rasinski, 1995), is the best way to intervene with young children in need of reading and writing remediation (Chall, 1989). An alternative to this phonics-based approach is Whole Language instruction, which emphasizes the use and recognition of words in everyday context (Rasinski, 1995). Children are introduced to ideas rather than single words, are given real literature rather than reading exercises, and are encouraged to keep journals in which they were permitted to spell creatively (Chall, 1989).

In contrast, Reading Recovery lessons primarily consist of phonics instruction, a method of reading instruction that reduces language to its simplest components. Children learn the sounds of individual letters first, then the sounds of letters in combination and in simple words. Simple reading exercises with a comparison led vocabulary reinforce the process (Caverly & Peterson, 1996). Phonics-based instruction has declined because of competition from whole-language instruction. Most teachers today favor a combination of the two techniques (Caverly & Peterson, 1996).

A second potential limitation of Reading Recovery programs is the cost (Dyer, 1991). Costs for Reading Recovery occur in two phases, start-up and ongoing expenses (Dyer, 1991). The start-up costs include teacher leader salary, tuition for Reading Recovery classes, and the construction of facilities necessary to conduct Reading Recovery training. The ongoing costs of Reading Recovery include the teacher leader salary and travel expenses, teacher salaries, books and materials for lessons and research, and ongoing professional
development for teacher leaders and teachers (Gaffney, 1991). Districts generally report costs per child between $2,300 and $3,500 (Collins, 1990).

While supporters have claimed Reading Recovery enables students to become independent readers (Rasinski, 1995), opponents argue that because only the bottom 10% of students qualify for Reading Recovery programs, it does not help enough students (Rasinski, 1995). Students who do not qualify for the program are not likely to receive the help they need because of the large amount of money spent on the Reading Recovery program.

A third concern with Reading Recovery programs is the limited amount of time that students can be enrolled in the program (Zimmaro, 1991). Students are given 12 to 20 weeks to improve their reading and writing skills. There were some cases where children do not begin to make progress immediately (Zimmaro, 1991). A child, who might begin making progress within the 12 to 20 weeks, may not make enough gains to be successful in the regular classroom (Zimmaro, 1991).

For Reading Recovery to be considered an effective method of instruction, students should maintain gains across grade levels and require no further intensive reading interventions. Therefore, one purpose of this study is to determine whether or not students receive long lasting benefits from the Reading Recovery program. The research questions in the next section address that purpose by comparing students who successfully exit the Reading Recovery to post Title One and Comparison students. The primary research question of this
study is “Do Reading Recovery students maintain their reading gains when compared to other groups of students who did not participate in Reading Recovery?” This question will be addressed through the following four sub questions.

**Research Questions**

1. Does the number of Reading Recovery, Title One, and Comparison students who scored above the 40th percentile change from second through fifth grade?

2. Are there statistically significant differences in ITBS Total Reading scores between groups (i.e., Reading Recovery, Title One and Comparison) of students in second through fifth grade?

3. Are there differences in CBM scores between groups (i.e., Reading Recovery, Title One and Comparison) of students in third grade?

4. When comparing teacher rankings of reading skill, how do post Reading Recovery subjects in third grade compare to post Title One and Comparison subjects?

**Limitations of the Study**

Several contextual factors associated with this research had an impact on data collection and are presented below as limitations to the study. First, it was not possible to track students beyond the fifth grade because the program had only been implemented for a few years. Second, schools in the study implemented the program at different times, thus the higher grade levels had
fewer participants than lower grade levels. Third multiple measures were collected from only 30 students. Therefore, the more extensive comparisons made in the study relied primarily on standardized test scores.

An additional limitation of this study was that no baseline data were collected. The researcher did not choose which students were placed in the specific reading programs and did not collect data about the subjects to determine how they scored prior to receiving Reading Recovery or Title One services. There is an assumption that there is a real difference between each group of subjects. Since no baseline data were collected, the researcher relied on the school-based decision of which students are placed in Title One and Reading Recovery.

**Explanation of Terms**

The terms used in this study are defined in the following ways:

Curriculum Based Measurement (CBM)--an assessment tool using short reading probes to obtain student fluency and accuracy through a words per minute (WPM) score. CBM scores were collected from a third grade class to be used as supporting evidence in this study. WPM score of 30 to 59 is within the instructional level for third graders.

Diagnostic Survey--a systematic observation of aspects of reading and writing used as part of Reading Recovery procedures. The survey is composed of six measures developed by Marie Clay. These measures are used to identify
children who need Reading Recovery and to provide a basis for beginning
Reading Recovery lessons.

   Discontinued Child--a student who has exited the Reading Recovery
program. The teacher bases the decision on observations of the strategies used
by the child during writing and reading activities, as well as scores from a
readministered Observation Survey. The child must reach at least the level of the
average classroom performance in first grade.

   Dismissed Child--a student who is released from the Reading Recovery
program because she does not make accelerated progress after a prolonged
period of time.

   Iowa Test of Basic Skills (ITBS)--a norm-referenced standardized test with
multiple sections, including verbal, comprehension, and total reading sections.

   Good Readers--students who assemble a range of information as they
construct meaning from written language. They make connections between text
they see and previously learned knowledge. They are not conscious of their
cognitive activities but are using many different cues or sources of information
simultaneously.

   Not Discontinued Children--children who had 60 or more lessons but were
not officially released from the program for various reasons including moving
from the school, not having time to complete a program before the end of the
school year, being placed in another program such as special education, or not
responding adequately to the program after 60 lessons.
Predictable Text—a book that uses predictable illustrations and text. They are easy to read, providing the child a chance to read fluently, for both meaning and enjoyment.

Program Children—are the students who receive 60 or more lessons or who were successfully discontinued from the program prior to having received 60 lessons.

Teacher Ranking—students are labeled by their teacher with a percentile rank (1-100) based on their performance in the classroom compared to other students.
CHAPTER II

REVIEW OF LITERATURE

Introduction

Reading Recovery is an early intervention program designed to assist children in first grade who are having difficulty learning to read and write (Clay, 1990). Children meet individually with a specially trained teacher for 30 minutes each day for an average of 12 to 20 weeks. The goal of Reading Recovery is for the children to develop effective reading and writing strategies (Clay, 1990). During this relatively short intervention, children who have been successful in Reading Recovery make faster than average progress so that they can catch up with their peers and continue to work on their own within an average group setting in the comparison classroom (Clay, 1988).

Marie Clay (1988) developed Reading Recovery in New Zealand by studying the behavior of children in the initial stages of learning to read. She discovered that errors and self-corrections provide important evidence about how children process print while reading (Clay, 1988). Clay developed a comprehensive theory of how children learn to read using language, visual stimuli, and experience. She used her knowledge to develop Reading Recovery. Following are the specific strategies and processes that Clay believes all effective young readers need to use.
1. Children must develop strategies early for use with print. Included in these strategies are left-to-right eye movements across the page and voiceprint match (Pinnell, 1989).

2. Second, children must develop self-monitoring skills. It is important for readers to continuously check for meaning, language, and visual information to monitor their own understanding. It is necessary to think about what they read and recognize when their understanding does not make sense (Pinnell, 1989).

3. Third, children must crosscheck their understanding. They integrate past learning into what they are reading. Through this method, good readers can understand new vocabulary, make predictions, and inferences (Pinnell, 1989).

4. Fourth, children must search for clues, such as context and pictures, as they read. Good readers always seek and use clues from experience through language, pictures, and the configuration of what is being read. Knowing to look for clues is being an active problem solver as a student builds reading skills (Pinnell, 1989).

5. Good readers utilize self-correction. They are able to recognize when they have made errors and how to correct those errors to make the text meaningful (Pinnell, 1989).

Clay saw these characteristics of reading as significant components of being an effective reader.
Selection Process

Children are chosen to participate in the Reading Recovery program by their classroom teachers and the Reading Recovery teacher. In consultation with classroom teachers, the Reading Recovery teacher identifies individual students who are behind other students in reading and writing. Those students are administered the Observation Survey of Early Literacy Achievement (Clay, 1988). The children who score the lowest on the Survey are placed in Reading Recovery. The exact number of students who enter into Reading Recovery depends on the resources available at the school the child is attending.

Clay’s Observation Survey is composed of six measures that represent different aspects of reading and writing (Clay, 1988). While completing the Observation Survey, the child uses books and writing to interact with the teacher in an informal way. The child’s scores are weighed less than the teacher’s observation during the testing segments. The survey is intended to provide a broad overview of the child’s language abilities (Pinnell, DeFord, & Lyons, 1988). The survey consists of six major sections.

1. The first segment of the Diagnostic Survey is Letter identification where the child is asked to identify 54 upper and lower case characters. The teacher documents any mistakes the child makes. This section is used to determine what the child knows about letters. If a child is determined eligible for Reading Recovery, this information will helps the teacher integrate the child’s needs into the lesson.
2. The next section is a **Word Test** that includes a list of words. The teacher documents how accurately the student reads the words. If the student is deemed eligible for Reading Recovery, the teacher uses this information to determine how much instruction the child will need.

3. The **Concepts about Print** section consists of the teacher reading a picture book and then asking the child questions about the content. This section determines the child's development of listening comprehension.

4. During the **Writing Vocabulary** section, the child is asked to write all the words she knows on a blank piece of paper. There is a time limit of 10 minutes and the teacher is able to prompt the child as needed. The section allows the teacher to get an idea of the child's vocabulary.

5. In the **Dictation** section, the teacher reads a simple sentence containing 37 phonemes and asks the child to write the words. This section allows the child to demonstrate how well he/she knows how to write from speech.

6. The final section is called **Text Reading**. At this point, the teacher completes a running record while the child reads a book that was introduced to the child on the previous day. A running record documents how well a child is able to decode and self-correct.

Throughout all these sections, the Reading Recovery teacher's judgment and achievement to analyze the child's performance is critical. The numerical scores and teacher input are used to justify the need for additional help (Clay, 1988). Each student's classroom teacher has the best understanding of the level a child
is achieving. The scores typically reinforce a teacher’s opinion and allow for criteria based eligibility requirements. Scores and teacher observation of progress are used to document the child’s progress as she proceeds through the Reading Recovery program.

After the Observation Survey is completed and a child has been accepted into the Reading Recovery program, there is an period called roaming around the known. The teacher observes and explores the reading behaviors of the child for ten days. The most important reason for roaming around the known is that it requires the teacher to develop lessons from the child’s responses (Clay, 1992). During the roaming around the known period, the teacher allows the child to choose the books she wants to read, lets the child correct herself with little support, and provides an opportunity to write. Roaming around the known helps the teacher determine what reading instruction the child will need based on her strengths. This portion of Reading Recovery was developed to be used prior to the initial week of lessons in order to allow the Reading Recovery teachers to determine how to best teach each child.

Components of a Reading Recovery Lesson

The Reading Recovery lesson is individualized for each child within the components of the lesson framework. Lessons consist of five components: (a) reading familiar books; (b) completing running records on the newly introduced book during the previous lesson; (c) working with magnetic letters; (d) writing, cutting up, and reassembling a sentence; (e) and reading a new book in
preparation for the next lesson (Barnes, 1997). The content of each lesson is dependent on what the child needs to become an independent reader and writer.

The lessons are designed to encourage two kinds of learning during Reading Recovery. First, the child performs successfully on familiar material to strengthen the reader's decision-making processes. Secondly, the teacher supports the child's independent problem solving through new and interesting text (Clay, 1992). It is necessary for the teacher to cautiously increase the difficulty of the text in order to ensure that the child continues to make progress throughout the lessons.

The first component of the lesson, reading a familiar book, allows the child to use her existing reading strategies and focus on the meaning of the text. The book is either selected by the student or the teacher to create a learning opportunity for the child (Clay, 1992). The child should be able to reread the book with 90-95% accuracy when the appropriate level is selected (Pinnell et al., 1988). While the child is reading the book, it is important for the teacher to encourage the child to work out her own problems through independent problem solving.

The second stage of the Reading Recovery lesson is the administration of the running record (Pinnell, 1990). The student rereads the book that was introduced the previous day in order for the teacher to complete the running record of the child's oral reading. Running record is a technique whereby the teacher records and writes about the child's reading behavior (Clay, 1988).
Teachers analyze the strategies students do and do not use and document self-correcting behavior (Clay, 1991a). Running record data provide the teacher with information regarding the progress of the child from lesson to lesson. From this information, teachers can determine whether the readings are too easy or too difficult. It is also important for teachers to determine upcoming readings as well as what should be focused on the next day (Clay, 1991a).

The third portion of the Reading Recovery lesson consists of the student writing a one or two sentence long message with the help of the teacher. This message is written word-by-word. The student writes known words and attempts to write unknown words. The Reading Recovery teacher uses strategies to help the student with the unknown words. The teacher has the option of using Elkonin boxes or magnetic letters to help the student spell the words. When using Elkonin boxes, teachers draw one box for each sound in the word the child is trying to spell. The magnetic letters are used to produce words using letter and sound relationship. Both of these strategies build letter/sound relationships, as well as help students examine the details of written language and look for patterns in words (Pinnell, 1989). After the student finishes composing the message, the teacher writes the sentence on a strip of paper. At this point, the words on the strip are cut apart for the student to reassemble and read. This exercise allows the child the opportunity to understand the differences between words (Clay, 1991a).
The final component of a Reading Recovery lesson is the introduction of a new book. The teacher pre-selects the book in order to provide the child with the opportunity to learn specific needed skills. First, the student and teacher look through the book and talk about the pictures. This allows the child to become familiar with the story and introduces some of the vocabulary that will be part of the story. Next, the child reads the book with assistance from the teacher as needed. During the next lesson, the child will read the book on her own while the Reading Recovery teacher completes a running record in order to determine the progress the child has made from the first reading to the second (Clay, 1991a).

Marie Clay (1990) stated the necessity of including all four stages in each Reading Recovery lesson. The only reason a lesson would be slightly altered is if the individual child’s progress warranted a change (Swartz & Klein, 1994). Each component is designed to serve a specific purpose and to help students overcome reading difficulties.

**Discontinuation from Reading Recovery**

Determining when a student is competent enough to be discontinued from the Reading Recovery program is an important decision. There is no specific criteria for discontinuation because the progress a student will continue to make will differ from child to child and from school to school (Clay, 1992). The major goal of the program is for the student to feel confident in their ability to read. It is necessary for the student to experience confidence in reading without assistance from the Reading Recovery teacher. It is also important for the student to know
when to ask for help and how to use the help (Escamillia, 1992). An additional goal of the Reading Recovery program is for the child's reading and writing skills to continue to improve (Opitz, 1991).

Reading Recovery teachers use the following questions to help them decide whether a student is ready to be discontinued:

1. Is there an appropriate group at the child's level in the classroom? It is important to think about the size of the group, the book level at which they are working, their rate of progress, and the teacher's attitude.

2. How well will this child survive back in the classroom? Will the child continue to learn from her independent efforts? Has the child acquired strategies to be confident in her skills?

3. Throughout each Running Record analysis, has the child read increasingly difficult material at 90% accuracy or above?

4. Do you expect the child's reading and writing skills to continue to improve? Where was the child weak before? Will she be able to score much higher now (Clay, 1993)?

There are no set strategies nor any test score that must be attained for a child to be discontinued from Reading Recovery (Pinnell, 1989). Instead, it is essential for the child to develop her own system of strategies to increase her reading and writing skills. However, there are some activities a child should be able to do before being discontinued. First, the child should have Comparison over the directional movement of text without lapses, or at least be aware of her
own tendency to lapse. Second, the child needs to be able to match a spoken word with the correct written word. Third, it is very important for the child to check her own progress. When she realizes that she made a mistake it is necessary for the child to correct herself. In addition to self-monitoring, it is necessary for the child to cross check her own responses (Boehnlein, 1987). If she notices discrepancies in her responses, cross checking visual information with a different kind of information, such as meaning, should result in a correct response.

The next step for discontinuing is to prepare the child and her classroom teacher (Clay, 1992). In some situations, the Reading Recovery teacher can continue to work with the child in her classroom for the final weeks of the program. The final step in determining whether a child is ready to be discontinued is to administer the Observation Survey. An independent teacher analyzes the child's strengths and weaknesses compared to the prior administration. At this point, the areas in which the child has made progress are noted and it is determined whether the child should be discontinued from the Reading Recovery program (Pinnell, 1989).

If the child is discontinued, it is important for the Reading Recovery teacher to discuss the child's current status with her classroom teacher. The child's progress should continue to be monitored until both teachers are sure that the child is continuing to make progress (Pinnell, 1990). If the child is not ready to be discontinued from the program, it is up to the Reading Recovery team and
classroom teacher to decide what is best for the child. Clay (1991b) has
developed some reasons for why a child is not ready to be discontinued:

1. The child needs to continue in the full program.

2. The child needs further help in two or three areas where she is still weak, such as text reading, hearing sounds in sequence, taking words apart, or constructing words.

3. The child needs further help to survive in the class situation.

4. The child needs one or two individual text reading sessions each week for motivation, as a check, to gain confidence, or for any other reason.

In these situations, new learning goals are set for the child. The Reading Recovery and classroom teachers decide what the child needs to do to become a more independent reader and writer (Clay, 1991a).

Evidence indicates that Reading Recovery has positive outcomes for first grade children failing to progress at the same rate as their average classmates before entering the Reading Recovery program (Pinnell, DeFord, & Lyons, 1988). Each Reading Recovery site in the United States collects data and prepares annual reports of program results (Clay, 1992). The data from a growing, diverse population are compiled in a national data bank at Ohio State University. The results indicate that Reading Recovery is a successful program for the majority of the school districts who have implemented the program.
Reading Recovery Research

The presentation of the following research provides a basis for the research completed in this study. Previous studies completed on maintained gains, short and long-term effectiveness of Reading Recovery, effectiveness for at-risk students, and cost effectiveness are discussed. This information provides the reader with a better understanding of the impact of the Reading Recovery program.

Critics

Research on Reading Recovery has also been completed by non-Reading Recovery advocates at non-Reading Recovery sites. The effectiveness of Reading Recovery has been researched extensively by both advocates and opponents. Opponents believe that other reading programs are more successful, that students do not maintain the gains from the intense intervention, and that Reading Recovery is not a cost effective program (Rasinski, 1995). It is felt that the views of Reading Recovery have been confused with the debate of phonics versus whole language. Rasinski (1995) criticize the standard of moving children to an average level. This standard is held because it is a goal of Reading Recovery that children are able to participate fully in classroom instruction. In order for children to maintain gains made in Reading Recovery, strong teaching in the classroom needs to follow.

Reading Recovery advocates continue to conduct research to prove the effectiveness of the program. Studies will be presented that are designed to
determine whether Reading Recovery students maintained their gains, the
effectiveness of a program that has been implemented for four years in New
Hampshire, the effectiveness of Reading Recovery for low socioeconomic status
minority students, and the long term effectiveness of the program.

Reading Recovery Students Maintaining Gains

Children who received Reading Recovery during the first year of
implementation in the previous study were followed to determine their progress
one and two years later (Lyons, 1991). The results found that students who
received Reading Recovery lessons maintained average reading achievement
through third grade. In this research, the diagnostic survey was used again to
determine the gains of the Reading Recovery students. The mean text reading
scores were compared with the scores of comparison children in May 1987 (RR
= 14.39; C = 11.23) and again in May 1988 (RR = 19.70; C = 16.71). The scores
of discontinued Reading Recovery children (mean = 16.71) were compared in
1987 with average levels of second grade classrooms (mean = 18.60). In 1988,
discontinued Reading Recovery children (mean = 23.99) were compared with the
average levels of third grade classroom (mean = 23.50). The average band was
calculated from the text reading scores of a random sample of second and third
grade children at the project schools (Lyons, 1991). The Text Reading level of
the group of discontinued children remained within the average range for their
grade level for both years.
**Effectiveness**

A New Hampshire study examined the results and effectiveness of the fourth year of the Reading Recovery program (Schotanus, 1994). A total of 89 teachers taught Reading Recovery to 442 students during the 1993-94 school year. Within this study, the researcher addressed seven research questions in order to identify strengths and areas of concern.

The first question was what proportion of Reading Recovery children successfully complete the program (Schotanus, 1994, p.18)? Of the 442 students, 373, 84% of the students successfully completed the program and are making at least average progress with regular classroom reading instruction. In this study, children who were successful in Reading Recovery were children who received 60 or more lessons in Reading Recovery or who were discontinued from the program. Discontinued children are students who were identified as having met criteria needed to be released from Reading Recovery.

The second question asked what was the progress of Discontinued and Reading Recovery Program children (Schotanus, 1994, p.18)? A comparison of the children’s September and June scores were made on three measures of the Diagnostic Survey: (a) writing vocabulary, (b) dictation, and (c) text reading level. The results show that students who participated in Reading Recovery made significant progress. The mean score of Reading Recovery children for Writing Vocabulary was 3.97 in September, 47.94 in June. The students mean Dictation scores were 5.33 in September, 34.17 in June. Finally, the Reading Recovery
students Text Reading Level was .68 in September, 15.24 in June. There are significant differences between the students' initial scores and their scores on the Diagnostic Survey after being discontinued from the Reading Recovery program.

The third question asked what proportion of Discontinued Reading Recovery children and Reading Recovery Program children achieved end-of-year scores equal to or exceeding the average band of the site (Schotanus, 1994, p.19)? The Reading Recovery students' Writing Vocabulary, Dictation, and Text Reading Level were measured in comparison to a group of 83 randomly selected first grade students at the site. The proportion of discontinued children who achieved end of year scores equal to or exceeding the site average band ranged from 56% for Text Reading to 72% for Writing Vocabulary. The proportion of Reading Recovery Program children who achieved end of year scores equal to or exceeding the site average ranged from 48% for Text Reading to 83% for Dictation.

The fourth question was what was the progress from entry through end of year testing for children discontinued from the program prior to April 1 (Schotanus, 1994, p. 24)? Discontinued students' entry, exit, and end of year scores for the three measures of the Diagnostic Survey were compared for children who were discontinued at least eight weeks prior to the final testing period. After being discontinued from Reading Recovery, students received no further extra help. They were expected to continue to make progress by independent reading and classroom instruction. The discontinuation date
depended on the individual child's progress. The compared scores showed that Reading Recovery children made accelerated progress from their entry to exit scores and continued to make some progress through the end of the year. In Writing Vocabulary, the students' mean score in September was 4.57, when the students were discontinued the mean score was 44.17, and at the end of the year the Discontinued Reading Recovery students' mean score was 51.21. In Dictation, an entry mean of 6.64, exit mean of 34.38, and an end of year mean of 18.70 represent the students' progress throughout the year. The students' Text Reading Level in September, .70, at exit, 12.55, and the end of year score, 18.70, reinforce the research that indicates that Discontinued Reading Recovery children continue to make progress without additional help.

The fifth question asked what the progress of the children who were not discontinued from Reading Recovery. Of 442 Reading Recovery Program children, 69 children, representing 16% of the program population, were not discontinued. These children made significant gains but not enough to reach the average of their class. Schotanus (1994) believes that there may have been factors which influenced the children's lack of accelerated progress: (a) attendance, (b) teacher in training lacked experience working with the most difficult to teach children, (c) limited availability of Teacher Leader assistance to previously trained Teachers, (d) children needed additional or longer term educational services, and (e) lack on congruence between classroom program and Reading Recovery instruction. The children's average scores in Writing
Vocabulary of 3.01 in September to 34.88 at the end of the year show that the Reading Recovery students did make accelerated progress even though they did not reach the average of their class. In Dictation, the Not Discontinued Reading Recovery students had a mean score of 4.01 in September and a mean of 30.29 at the end of the year. The student's mean Text Reading Level was .67 at the beginning of the year and increased to 7.82 in June. Based on these numbers, it is evident that these students made gains, but not as significantly as students who were successfully discontinued from the program.

The sixth question discussed what informal responses to the Reading Recovery Program were made by Reading Recovery Teachers, Teachers in training, administrators, other teachers in the building, and parents of Reading Recovery children? (Schotanus, 1994, p. 32). The overall response from all groups was very positive and supportive. It was generally felt that the program was beneficial and should be expanded.

A total of 811 surveys were distributed to Reading Recovery teachers, classroom teachers, administrators, and parents. Of the 23 surveys that were distributed to in-training teachers, 100% were returned. In-training teachers indicated they had learned a great deal about the reading process and the teaching of reading.

There were 174 surveys distributed to classroom teachers with a 73% return rate. Overall, classroom teachers viewed the program as a very good program with an average score of 4.6 on a 1 through 5 scale. Some of the
teachers commented on the impact of Reading Recovery beyond the individual child: The Reading Recovery Program has also been beneficial to me as a first grade teacher. I am more aware of reading and writing strategies and how a child develops into a good reader (Schotanus, 1994, p. 36).

There were 75 surveys distributed to administrators with a return rate of 72%. The administrators indicated that Reading Recovery has had a positive effect on the students, Reading Recovery teachers, classroom teachers, parents, and the school as a whole.

There were 481 surveys distributed to parents of Reading Recovery children with a 69% return rate. On a scale of 1 (not a very good program) to 5 (a very good program), parents viewed Reading Recovery as a very good program, giving an average score of 4.8. Parents made comments about how Reading Recovery affected their child's experience in school. Without participation in this program, my child would have continued to be frustrated about what he perceived as lack of ability (Schotanus, 1994, p. 37).

The seventh question asked what percentage of the first grade population in each district participating is being served by Reading Recovery? The percentages ranged from 1.4% to 4.5%. Full implementation of the program would increase those numbers to 20% to 30% of the first graders (Schotanus, 1994).
Effectiveness for High Risk Students

The effectiveness of Reading Recovery for high-risk students was studied in a New Hampshire School District. In the 1994-95 school year, Mount examined the effectiveness of Reading Recovery for high-risk students in the Midwestern Public School District. The subjects included 60 randomly selected third grade minority students who came from low and middle class socioeconomic status. Half of the students received Reading Recovery. The others have not attended any remedial reading programs. They had received their reading instruction in the comparison classroom (Mount, 1996).

The ITBS were administered to each student in the Midwestern Public School District each spring. The reading results of the ITBS administered during the Spring of 1995 were used in this study. The examination of these ITBS scores revealed the Reading Recovery students' mean score of 3.6 compared to a mean score of 3.4 for the other students (Mount, 1996). There was no statistically significant difference between the treatment or Comparison group. The conclusion was drawn that first grade at-risk students who have participated in the Reading Recovery program will not obtain significantly higher achievement scores than students in the comparison classroom who had not received Reading Recovery assistance.

The results of this study indicated that Reading Recovery students do not have a higher achievement level than comparison students, however, they are at the same level as their peers (Mount, 1996). Students who participated in
Reading Recovery are the lowest achieving in the first grade. By bringing these students up to an average literacy level, they are able to keep up with their peers in the comparison classroom (Mount, 1996).

**Long-Term Effectiveness**

The goal of the Irving Independent School District study was to determine whether the Reading Recovery program in the Irving Independent School District was effective. This was measured by comparing Reading Recovery students' reading achievement to students who received an alternative intervention. The long-term effectiveness of Reading Recovery was also monitored through reading tests. Johnstone and Wang (1997) studied whether the group of children who successfully completed Reading Recovery could read material that matched the average range of achievement in the school and how the Reading Recovery students compared with Chapter/Title 1 students. To determine the existence of long-term effects, the Reading Recovery students' performance on reading tests was tracked.

The subjects included three groups of students. First, Reading Recovery Discontinued students who had successfully completed the program in an average of 60 lessons and were officially released were included. Second, a random sample of Chapter/Title 1 students from schools that did not implement Reading Recovery were included. Third, a random sample of students from the same grade level who had not participated in Reading Recovery or Chapter/Title 1 were included.
Johnstone and Wang (1997) asked the following research questions:

1. Do the majority of the Reading Recovery discontinued students avoid referral to any remedial programs after first grade?

2. Do the discontinued Reading Recovery students maintain their gains or make continuous progress in reading across years?

The researchers used ITBS reading comprehension scores as the dependent variable in determining the effectiveness of Reading Recovery.

One major objective of Reading Recovery is to avoid later referral to any remedial programs. In the Irving Independent School District, students who scored below the 40th national percentile on the ITBS were referred for a remedial program. Johnstone and Wang (1997) stated that the 40th national percentile be used as a standard to determine Reading Recovery’s effectiveness.

At the end of first grade, more Reading Recovery students passed the 40th percentile cutoff score than Chapter/Title 1 students (Johnstone & Wang, 1997). According to the Johnstone and Wang (1997) study, this difference was found across three years. Across those three years, the percentile of Chapter/Title 1 students who scored above the 40th percentile on ITBS reading comprehension ranged from 35.6% to 41.9%. The first grade students’ scores were above the 40th percentile for the three years. Approximately 50% of Reading Recovery students were referred to a remedial program after they were discontinued, whereas, approximately 60% of Chapter/Title 1 students were referred for a remedial program. Approximately 30% of the random sample of students in first
grade scored below the 40th percentile, and were referred for remedial programs in the Irving Independent School District.

In comparing the ITBS reading comprehension scores of discontinued Reading Recovery students, Chapter/Title 1 students, and comparison education students, Johnstone and Wang (1997) found that discontinued Reading Recovery students maintained their gains in reading across the years. The researchers determined this by documenting the students' ITBS reading comprehension scores through 4th grade. Chapter/Title 1 students did not show the same level of success. Chapter/Title 1 students were more likely to score lower than the 40th percentile on reading comprehension in 2nd through 4th grade making those students less able to avoid repeating remedial placement than their Reading Recovery comparison group.

Summary

Reading Recovery is an intensive, one-to-one tutoring program for young children having difficulty in beginning reading. Supporters of Reading Recovery have claimed that this early intervention program has immediate and long-term effects on students' reading performance.

The researcher built upon the Mount (1996) and Johnstone and Wang (1997) studies. Mount (1996) found that students who participated in Reading Recovery did not score significantly higher in the ITBS than comparison students. However, Reading Recovery students did score within the average literacy level and are able to keep up with their peers in the comparison classroom.
The design of this study expanded on Mount's (1996) findings, which examined a single year, by collecting ITBS scores from second through fifth grade. Collecting data from many years allowed the researcher to determine whether students in Reading Recovery maintain their gains. In addition, the researcher collected data from Title One and Comparison subjects in the same district. This allowed a comparison of the progress students made through the fifth grade.

Johnstone and Wang (1997) used ITBS reading scores to determine the effectiveness of the Reading Recovery program. The 40th percentile was used as a standard cutoff for referral to a remedial program. The adoption of this standard into the design of this study enabled a comparison between the number of students from Reading Recovery, Title One, and the Comparison group who needed additional interventions in reading.

In addition, data were collected from Curriculum Based Measurement (CBM) reading probes and teacher percentile ranking of a selected group of third grade students. In order to have additional data to support possible findings, Curriculum Based Measurement reading probes were administered to Reading Recovery, Title One, and non-Title One/Reading Recovery third graders to obtain words-per-minutes scores. Teacher percentile rank was also obtained for these third graders. Multiple measures allowed for additional comparison of Reading Recovery, Title One, and Comparison subjects' performance and gains in reading.
CHAPTER III

METHODOLOGY

This study was designed to compare Reading Recovery students to Title One and Comparison subjects, and Title One students to Comparison students across a variety of reading skill indicators. This comparison was based on an analysis of Reading Recovery, Title One, and Comparison subjects' ITBS scores from second through fifth grade. Also compared were the Curriculum Based Measurement (CBM) reading probes and teacher rankings of Reading Recovery, Title One, and Comparison subjects in the third grade.

The primary research question of this study is "Do Reading Recovery students maintain their reading gains when compared to other groups of students who did not participate in Reading Recovery?" This question will be addressed through the following four sub questions:

1. Does the number of Reading Recovery, Title One, and Comparison students who scored above the 40th percentile change from second through fifth grade?

2. Are there statistically significant differences in ITBS Total Reading scores between groups (i.e., Reading Recovery, Title One and Comparison) of students in second through fifth grade?

3. Are there differences in CBM scores between groups (i.e., Reading Recovery, Title One and Comparison) of students in third grade?
4. When comparing teacher rankings of reading skill, how do post Reading Recovery subjects compare to post Title One and Comparison subjects?

To address the first question, the research design utilized the 40th percentile of the ITBS test in order to identify the number of Reading Recovery, Title One, and Comparison subjects who scored above this level. In the district in which the study took place, the 40th national percentile is the cutoff score on the ITBS for determining need for a remedial program. One major objective of Reading Recovery is to avoid later referral to any remedial reading programs.

To address the second question, the ITBS scores of Reading Recovery versus Title One versus Comparison subjects were compared through a statistical analysis, utilizing a planned Tukey test. The purpose of this comparison was to determine how Reading Recovery students' scores compared to Title One and Comparison subjects' scores and to determine how Title One students compared to Comparison students.

To address the third question, additional data were collected from generic Curriculum Based Measurement (CBM) reading probes administered to Reading Recovery, Title One, and Comparison subject third graders. When administered these generic probes, students were participating in the norming process during the fall of the 1999-2000 school year. Schools use CBM in order to collect data about their own students. Schools are able to use the results of norming to determine students' performance and progress in reading. Student norms are
calculated from student results each fall and spring. The scores collected for this study were from the fall administration of CBM. Descriptive analyses of this data were used to complement the statistical analysis of the ITBS scores.

To address the fourth question, third grade teachers in one of the school buildings ranked their students by achievement. Each student was given this rank in order to determine how he/she was performing in the areas of reading comprehension and fluency compared to peers in the same classroom. Students in each group were compared on the basis of ranking. This analysis also complemented the statistical analysis.

**Components of Study**

The primary question of this study, is there a significant difference in Reading Recovery students' achievement after completing the Reading Recovery program, was addressed through the previous four questions. By collecting information from ITBS scores, CBM scores, and teacher ranking, the researcher was searching for the effectiveness of the Reading Recovery program to determine whether students who were once the lowest achieving readers in first grade were successful in Reading Recovery. The goal is for those students to be able to achieve at a reading level that is comparable with average students.

**Site**

The subjects for this study were selected from a midwestern school district where Reading Recovery had been implemented. One-third of the subjects were
successfully discontinued from the Reading Recovery program, one third had participated in the Title One program who had not participated in Reading Recovery, and one third of the subjects were randomly selected from comparison students who had never received reading program assistance.

The data were collected from four schools in a Midwestern school district that have implemented the Reading Recovery program. Of the four schools, three have a population above 50% who receive free/reduced lunch. In the 4th school, 18% of the students receive free/reduced lunch.

Subjects

Three different reading scores of 285 students were collected as data for this study. The scores of 51 students were used for second through fifth grade. The scores of 78 students were used for second through fourth grade. The scores of 75 students were used for second through third grade. The scores of 81 students were used for second grade. This means that there are 51 fifth grade scores. There are 129 fourth grade scores. There are 204 third grade scores and 285 second grade scores. Of the 285 second through 5th grade students, 95 received Reading Recovery, 95 received Title One services, and 95 students were randomly selected from students who have not participated in either of these reading programs. Students in the Title One and Comparison group were randomly selected in order to get an equal number of students in each group. Because only students who attended the school at the time of the study were chosen as participants, there was no threat to validity from mortality.
Within this sample of students, the Curriculum Based Measurement (CBM) reading scores of 30 third grade students were also analyzed as another measure of performance. Ten of those students were discontinued from Reading Recovery, 10 were Title One students, and 10 were randomly selected Comparison subjects. Subjects were chosen from this particular grade level and school because of availability of an adequate number of each group of subjects. These data were used as a comparison with student performance as measured with the ITBS. Additionally, a teacher rank was obtained for each student.

Measures

Iowa Tests of Basic Skills (ITBS). The ITBS is a norm-referenced standardized test administered within strict time limits. This instrument was chosen because all students in this school district take this test once a year. The ITBS scores are used in combination with other assessment tools to determine whether students need to be placed in remedial programs. Utilizing ITBS scores enabled the researcher to compare student comprehension, verbal, and overall reading achievement.

The ITBS is given to a large, representative group of students across the nation. Norm-referenced tests compare a student's performance to those of the original test group. Scores are reported as percentiles, as a rank showing the percent of students who scored at or below each individual student's score. These percentile ranks were used to compare Reading Recovery, Title One, and
Comparison subjects. Students who scored above the 40th percentile were identified as not requiring remedial reading assistance.

Using the ITBS allowed the researcher to compare students’ scores as they progressed through grade levels. Student ITBS scores measure growth in fundamental skills necessary for academic success and later life success. The ITBS was used for this study because it was an assessment that all students in the school district had been administered. Time constraints did not allow for the researcher to administer alternative assessments to the subjects.

The reliability of the ITBS was noted. Reliability evaluates an instrument in order to determine consistency. When measurement error occurs, a test is not considered reliable. Measurement error occurs when two testers score the same test and obtain different scores or when a student takes the same test on different days and obtains different scores. The degree of reliability is expressed by correlation coefficients which range from 0, no reliability, to 1.00, perfect reliability. Each subtest of the ITBS is assessed for reliability and given a correlation coefficient. Since there are multiple subtests in the ITBS, the reliability coefficient for the entire test is described in a range. The correlation coefficients are based on individual subtest reliability and the range is based on the results from each subtest to give a reliability coefficient range for the entire ITBS. The reading subtests of the ITBS were individually given a correlation coefficient of .85 for Vocabulary and .90 for reading comprehension. A correlation coefficient above .80 is considered reliable. The reliability for the
ITBS subtests range from .67 to .95, meaning that, as a whole, the ITBS is a reliable measure.

The most important kind of validity for an achievement test is content validity. This is best measured by the user's examining the extent the test measures the content of the curriculum being taught. A test has content validity to the extent the items represent the content that the test is designed to measure. The content validity for the ITBS is high because of the way the test was developed. Curriculum guides, textbooks, and research were used to write the items on the ITBS. The correlation coefficients ranged from .72 to .85, meaning that the ITBS is a valid measure.

Curriculum Based Measurement (CBM). CBM scores were collected for third grade students from one school in the district. This class was chosen based on the number of students who received Reading Recovery and Title One remedial reading assistance and because the school administers generic CBM reading probes every year to all students. The researcher was given access to the third grade scores of Reading Recovery, Title One, and Comparison subjects' in this study.

Generic CBM includes reading probes which are one page stories written according to the appropriate level for each grade. If a student is reading at grade level, he/she will score within the instructional range on a grade level probe. Each student was administered three grade level probes. Each student was allowed 3 minutes to read each probe. Fluency measures were determined by a
combination of speed and accuracy, which translates into the number of correct responses per time unit or words per minute (WPM) score. This measurement gave additional data on the third grade students in Reading Recovery, Title One, and Comparison subjects. The students’ scores from each group were compared to determine reading skill level.

The validity of CBM was based on five measures of reading used to monitor students’ progress. These measures include reading stories aloud from a basal reader passage, a list of words selected from the students’ passage, words underlined in a story from the students’ passage, supplying words that had been deleted from the passage, and giving the meaning of words selected from the students’ passage. Based on the information, the correlation coefficients from CBM ranged from .73 to .91, with most coefficients above .80. The range of correlation coefficients for the CBM indicates that it is a valid measure.

The reliability was determined from CBM using three methods, test-retest, parallel forms, and interrater agreement. Each method is given a correlation coefficient in order to determine degree of reliability. The correlation coefficients ranged from .82 to .97. A range of .82 to .97 indicates that CBM is a reliable measure.

**Teacher ranking.** Third grade teachers were asked to give a percentile rank for the students based on the reading performance of the entire class. The teachers were asked to put their students in order based on reading frequency and comprehension achievement in the classroom. Teachers gave students a
percentile rank based on their reading performance in those areas. The teachers were instructed to give each student a different percentile rank based on their achievement in the classroom compared to peers, e.g. the 50th percentile. The percentile was converted to number ranks by the researcher because percentile ranks were found insufficient to use as a comparison tool. The researcher put the students in order based on the percentiles given and replaced the percentile with a number rank. Students who achieve at a higher level were ranked towards one. Those percentile rankings were converted to number rankings to allow the researcher to compare students' ranks to their scores on ITBS and CBM.

The teacher ranking of Title One students was a more difficult task. Students who receive Title One services do not receive their reading instruction in the regular classroom, unlike the Comparison and Reading Recovery students. Because their reading ability should be based on how they perform in the regular classroom, this could have affected how the teachers rank the Title One students.

Procedure

The scores obtained for this study were taken from each subject's cumulative file, which was located in the main office of the attended school. Each student's educational history has been documented in these files. The researcher collected the subject's Iowa Test of Basic Skills total reading scores, which included a comprehension and vocabulary score. ITBS
reading scores were collected from Reading Recovery, Title One, and Comparison subjects. The scores were from each group were compared, Reading Recovery to Title One and Comparison, and Title One to Comparison.

Additional data were collected from third grade subjects from one school in the district that had been administered generic CBM reading probes. The generic probes were administered to the students during the first semester of the 2000-2001 school year. Teachers were trained to administer generic CBM probes during school in-services. Each teacher is responsible for administering the probes and keeping a record of students’ scores. These students also received a teacher rank from their regular education teacher.

Design and Analysis

Iowa Test of Basic Skills total reading scores were collected from students in three groups, Reading Recovery, Title One, and a random sample of Comparison subjects. A portion of Reading Recovery, Title One, and Comparison subjects' were administered generic CBM reading probes and given teacher rankings. The objective of the research plan was to gather data in order to address the research questions.

The ITBS reading scores were obtained to address the first and second research questions:

1. Does the number of Reading Recovery, Title One, and Comparison students who scored above the fortieth percentile change from second through fifth grade?
2. Are there statistically significant differences in ITBS Total Reading scores between groups (i.e., Reading Recovery, Title One and Comparison) in the second through fifth grade.

It was necessary for a student to achieve a score at or above the 40th percentile on this nationally normed test in order to be considered to be average or above average in reading. The 40th percentile was chosen as a criterion because students who score below that level are often referred to a remedial reading program (Johnstone & Wang, 1997). This criterion was used in the district where the data were collected. The scores were ranked in order to obtain the number of Reading Recovery, Title One, and Comparison subjects who scored above the 40th percentile.

The data were also analyzed using the computer software program, SPSS (1994). The data were examined using a planned Tukey test to analyze the ITBS scores. Reading Recovery, Title One, and Comparison subjects' scores were compared for each grade level. Reading Recovery students were compared to Title One and Comparison students. Title One and Comparison student scores were compared. The Planned Tukey test was utilized in order to analyze significance between the pairs of groups.

The generic CBM reading probes were used to address the third research question: Are there differences in CBM scores between groups (i.e., Reading Recovery, Title One and Comparison) in the third grade? The mean, minimum, and maximum were calculated for CBM reading scores and teacher rank.
The teacher rankings of reading skill were used to address the fourth research question: When comparing teacher rankings of reading skill, how do post Reading Recovery subjects compare to post Title One and Comparison subjects? The mean teacher rankings were determined in order to compare the Reading Recovery, Title One, and Comparison subjects. This descriptive data allowed the researcher to distinguish between the scores of each group of students.
CHAPTER IV

RESULTS

Introduction

The purpose of this study was to compare the reading achievement of Reading Recovery students to Title One and Comparison subjects' ITBS reading scores and to compare Title One and Comparison students' ITBS reading scores from second to fifth grade. To make this comparison, ITBS test scores, CBM test scores, and teacher rankings were collected and analyzed.

Findings indicated that there were not significant differences between the ITBS scores of Reading Recovery and Comparison students in grade three through five. There was a significant difference on the second grade level. Comparison subjects scored significantly higher than Title One students on the ITBS test, and the descriptive analysis of other measures, like the CBM test and teacher rankings, are consistent with these findings.

Results from 40th Percentile Cutoff of ITBS Scores

In order to determine whether late remediation is necessary for Reading Recovery students who have been successfully discontinued, the numbers of Reading Recovery students who scored above the 40th percentile in the reading section of the ITBS were determined (see Table 1). Out of the 95 Reading Recovery students in second grade, 68% of the students scored above the 40th percentile. Of the 68 third grade student score, 51% scored above the 40th
percentile. Of the 43 Reading Recovery students, 47% scored above the 40th percentile. Of the 17 students, 42% scored above the 40th percentile.

Title One students who scored above the 40th percentile were calculated. 52% of students receiving Title One services in second grade scored above the 40th percentile. In third grade, 41% scored above the 40th percentile. In fourth grade, 32% and 28% in fifth grade scored above the 40th percentile on the ITBS.

Comparison students who scored above the 40th percentile were also calculated. Of second grade students who have not needed any remedial reading assistance, 78% scored above the 40th percentile. In third grade, 62%, 59% in fourth grade, and 51% scored above the 40th percentile in fifth grade.

Table 1

Number of Students who Scored Above 40th Percentile from Reading Recovery, Title One and Comparison Subjects

<table>
<thead>
<tr>
<th>Grade</th>
<th>Reading Recovery</th>
<th>Title One</th>
<th>Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd</td>
<td>68%</td>
<td>57%</td>
<td>78%</td>
</tr>
<tr>
<td>3rd</td>
<td>51%</td>
<td>41%</td>
<td>62%</td>
</tr>
<tr>
<td>4th</td>
<td>47%</td>
<td>32%</td>
<td>59%</td>
</tr>
<tr>
<td>5th</td>
<td>42%</td>
<td>28%</td>
<td>51%</td>
</tr>
</tbody>
</table>

Note. Total n = 223, 2nd grade n = 95, 3rd grade n = 68, 4th grade n = 43, and 5th grade n = 17.
Results from ITBS Score Analysis

The comparison between the ITBS test scores of the three groups addressed the second research question: are there statistically significant differences in ITBS Total Reading scores between groups (i.e., Reading Recovery, Title One and Comparison)? A planned Tukey test showed that Title One students scored significantly below Comparison subjects in every grade. Reading Recovery students scored significantly lower than Comparison subjects in second grade. No significant difference was found between Reading Recovery and Comparison subjects in third through fifth grades (see Table 2).

Table 2
Mean Total ITBS Scores for Reading Recovery, Title One, and Comparison

<table>
<thead>
<tr>
<th>Group</th>
<th>Grade</th>
<th>Reading Recovery</th>
<th>Title One</th>
<th>Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2nd</td>
<td>44.05**</td>
<td>42.11**</td>
<td>53.24</td>
</tr>
<tr>
<td></td>
<td>3rd</td>
<td>46.56</td>
<td>42.64**</td>
<td>52.76</td>
</tr>
<tr>
<td></td>
<td>4th</td>
<td>47.86</td>
<td>42.88**</td>
<td>51.92</td>
</tr>
<tr>
<td></td>
<td>5th</td>
<td>46.14</td>
<td>39.32**</td>
<td>54.85</td>
</tr>
</tbody>
</table>

Note. Significance determined by the difference from Comparison subjects' scores.
Results from CBM Reading Score Analysis

In order to confirm the differences found between Reading Recovery, Title One, and Comparison subjects' ITBS scores, CBM reading scores were collected for 30 subjects divided equally among the three groups (Reading Recovery, Title One, and Comparison subjects). This analysis addressed the following research question: are there differences in CBM scores between groups (i.e., Reading Recovery, Title One, and Comparison students)? Title One students scored below Comparison students. There were minimal differences between Reading Recovery and Comparison student scores (Table 3). All the Reading Recovery students scored within instructional level, 30-59 WPM, on CBM reading. The mean CBM scores of Reading Recovery students are compared to Title One and Control students in the following graph (Figure 1).

Figure 1. Mean CBM WPM Score for Third Grade Reading Recovery, Title One, and Comparison Group.
Table 3

CBM Descriptive Statistics for Reading Recovery, Title One, and Comparison

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Scores</th>
<th>Reading Recovery</th>
<th>Title One</th>
<th>Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minimum</td>
<td>30</td>
<td>14</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>56</td>
<td>50</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>43.2</td>
<td>35</td>
<td>46.4</td>
</tr>
</tbody>
</table>

Results from the Teacher Rank Analysis

In this section, the following research question will be addressed: on teacher rankings of reading skill, how do post Reading Recovery subjects compare to post Title One and Comparison subjects? Descriptive statistics were used to compare the 30 third grade Reading Recovery, Title One, and Comparison subjects based on teacher percentile rankings. Teachers were asked to rank their students based on reading fluency and comprehension achievement. Students were ranked from 1 to 10, the highest ranking as 1. The mean, minimum, and maximum rankings were determined (see Table 4). Reading Recovery students' mean teacher percentile ranking is compared to Title One and Control students mean ranking (Figure 2).
Figure 2. Mean Teacher Percentile Ranking for Third Grade Reading Recovery, Title One, and Comparison Group.

Table 4

Teacher Rank Descriptive Statistics Used to Compare Reading Recovery, Title One, and Comparison Group

<table>
<thead>
<tr>
<th>Rank</th>
<th>Reading Recovery</th>
<th>Title One</th>
<th>Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum</td>
<td>18</td>
<td>23</td>
<td>17</td>
</tr>
<tr>
<td>Maximum</td>
<td>2</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Mean</td>
<td>8.1</td>
<td>12.8</td>
<td>6.8</td>
</tr>
</tbody>
</table>

A comparison of ITBS scores, CBM scores, and teacher rankings for the Reading Recovery, Title One, and Comparison third grade students were completed (see Table 5). Consistently, Comparison students scored and ranked the highest, followed by Reading Recovery students, and Title One students.
Table 5

Mean Comparison of ITBS, CBM, and Teacher Ranking for Group of Third Grade Students

<table>
<thead>
<tr>
<th></th>
<th>ITBS</th>
<th>CBM</th>
<th>Teacher Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparison</td>
<td>49.35</td>
<td>46.4</td>
<td>6.8</td>
</tr>
<tr>
<td>Reading Recovery</td>
<td>46.22</td>
<td>43.2</td>
<td>8.1</td>
</tr>
<tr>
<td>Title One</td>
<td>40.85</td>
<td>35</td>
<td>12.8</td>
</tr>
</tbody>
</table>

Summary

Prior to entering the program, Reading Recovery students performed below the 10th percentile in reading. After the program, Reading Recovery students should be performing above the 10th percentile, possibly above the 40th percentile. In second and third grades, more than half of the Reading Recovery students scored above the 40th percentile. The number of Reading Recovery students who score above the 40th percentile decreases slightly to 47% in fourth grade and 42% in fifth grade.

In comparing the ITBS mean scores, there was a significant difference between second grade Reading Recovery and Comparison student scores. There were significant differences between Title One and Comparison student scores in second through fifth grade. No significance was shown between Title
One and Reading Recovery students in second through fifth grades and between Comparison and Reading Recovery students in third through fifth grades.

CBM scores and teacher ranking findings were consistent with the ITBS results. Overall, the results found that Reading Recovery students' scored below Comparison students and above Title One students.
CHAPTER V
DISCUSSION

This study was designed to compare Reading Recovery students to Title One and Comparison students, and Title One to Comparison subjects across a variety of reading skill indicators: ITBS, CBM, and teacher ranking. The results were consistent across the reading skill indicators. Reading Recovery students scored higher than Title One students and lower than Comparison students.

Limitations

Before discussing the findings, however, some limitations in the design of the study should be acknowledged. First, there was an absence of baseline data. Thus the study design was constructed on the assumption that there was an initial difference in the achievement level of the students prior to receiving remedial reading assistance. Second, the researcher was not able to ascertain that the criteria for placing students in the remedial reading programs were consistently applied across the wide variety of settings considered in this study. Third, data were collected after Reading Recovery students received reading assistance, while Title One students continued to receive assistance, and as Comparison students continued through school without additional reading assistance. This limits the researcher's ability to make inferences about how much progress students made from participating in the remedial reading program.
Discussion of ITBS Scores

ITBS 40th Percentile

In order to determine whether students needed additional remedial reading assistance after Reading Recovery, this study identified the number of Reading Recovery who scored above the 40th percentile on the ITBS (see Table 1). Reading Recovery students enter the program achieving below the 10th percentile. It is the goal of the program that students are able to maintain gains made during Reading Recovery and achieve above the 40th percentile in order to eliminate the need for additional remedial reading assistance. There were students at each grade level who were able to achieve above the 40th percentile. In second and third grade, more than half of the Reading Recovery students scored above the 40th percentile. In third grade, the number of Reading Recovery students who scored above the 40th percentile decreased slightly to 47%. In fifth grade, 42% of the Reading Recovery students were able to achieve above the 40th percentile. As the grade level increased, gradually less Reading Recovery students scored above the 40th percentile on the ITBS. It is important to consider that the number of Reading Recovery students studied decreased as the grade level increased. In fourth grade, there were 43 Reading Recovery students. In fifth grade, there were 17 Reading Recovery students studied.

The slight decline in number of students scoring above the 40th percentile may indicate that for some Reading Recovery students the content gets more difficult for them and causes a decrease in their achievement level in reading. In
second grade, most Reading Recovery students were able to utilize their new reading skills to be successful in the regular classroom curriculum. As the grade level increased, the number of students who maintained gains made in Reading Recovery declined. The content of reading changes in later grades. Students are asked to utilize all the strategies they have been taught to be successful in reading, whereas in first and second grade students focus on the acquisition of reading skills.

The number of Title One students who scored above the 40\textsuperscript{th} percentile also decreased as the grade levels increased. In second grade, 52\% of Title One students scored above the 40\textsuperscript{th} percentile. Forty-one percent in third grade, 32\% in fourth grade, and 28\% of fifth grade students scored above the 40\textsuperscript{th} percentile. Students are eligible for Title One services if they are not successfully achieving in the regular classroom reading instruction. Typically, these students are between the 10\textsuperscript{th} and 40\textsuperscript{th} percentile in classroom performance. Since Title One students are still receiving remedial reading assistance, it is expected that that most of them will still be achieving between those percentiles.

Comparison students never needed remedial reading assistance. These students have always been able to receive reading instruction in the regular classroom. More than half of second through fifth grade Comparison students scored above the 40\textsuperscript{th} percentile on the ITBS. This is an expected result. Comparison students avoided needing remedial reading assistance by successfully achieving in the regular classroom. The results from this study
indicate that they continue to be successful in reading avoiding the need for additional remedial reading assistance.

**ITBS Mean Scores**

The mean ITBS scores of Reading Recovery students were compared to Title One and Comparison students. There was no significance between Title One and Reading Recovery scores at any grade level, thus no conclusions regarding the superiority of either program can be drawn. The lack of significance between Reading Recovery and Title One could imply that the programs achieve comparable results. Students are placed in either program based on their needs. Prior to intervention, Reading Recovery students are the lowest achievers. Students who are placed in the Title One program need a less intensive intervention than Reading Recovery students do in order to continue to progress through school.

There was not a significant difference between the ITBS scores of Reading Recovery and Comparison students in third through fifth grade. The lack of significance could imply that students who received Reading Recovery assistance were able to adjust to regular classroom instruction and continue to make progress in reading. Students who were previously achieving below the 10th percentile were able to utilize skills taught in Reading Recovery in order to continue progressing academically in the regular classroom reading curriculum.

In second grade there was a significant difference between Reading Recovery and Comparison students' scores. Comparison students scored
significantly higher than Reading Recovery students. Reading Recovery students who received a remedial reading program in first grade did not immediately achieve at a level that was comparable with Comparison students. The significant difference between Comparison and Reading Recovery students at second grade implies that Reading Recovery students were not able to make enough gains to perform on an equal footing with Comparison students. Reading Recovery students made enough gains in the program to increase their reading achievement level above the 10th percentile, where they were achieving prior to the intervention. Those considerable gains made by Reading Recovery students were imperative in order for them to achieve in regular classroom instruction. The significant difference from Comparison students indicates that they did not make enough gains to be considered an average performer in the regular classroom at the second grade level.

The mean ITBS scores of Title One students were also compared to Comparison students' scores. A significant difference between Title One and Comparison student scores was found in second through fifth grade. Title One students are still receiving remedial reading assistance through these grades. The rate at which the information is taught is gradual and students are in a group with other students who need additional assistance. The significant difference between Title One and Comparison students implies that Title One students still need extra help for reading. Those students are not prepared to meet the expectations of reading instruction in the regular classroom.
Discussion of CBM

The CBM scores indicated that Comparison students received the highest WPM score, followed by Reading Recovery, and then Title One students. Reading Recovery students scored a mean of 43.2 WPM, which was 3.2 WPM less than the Comparison mean. The mean WPM of Title One students, 35 WPM, which was 11.4 WPM less than the Comparison students' mean. Comparison students scored a mean of 46.4. The CBM scores show the same pattern the ITBS scores showed. Reading Recovery students scored below Comparison students and above Title One students.

CBM uses words per minute and word recognition scores to come up with each student's fluency score, which can be used as a reading level predictor (Rasinski, 1995). Student fluency scores are influenced significantly by decoding skills, how well the student can decode the words in the CBM probe. The results of the CBM scores indicates that the fluency of Title One students was not as well developed as Reading Recovery and Comparison students. These findings suggest that Reading Recovery students may have benefited from the decoding strategies emphasized in the Reading Recovery program. Title One students' are still receiving remedial reading assistance, which suggests they are still developing fluency and decoding skills. Comparison students probably have always had strong decoding skills.

Another explanation for these findings could be related to the Title One approach to reading, that is, the students' lessons are not individualized. If a
Reading Recovery students' weakness is decoding, the lessons will consist of using his/her strengths to teach decoding skills. Title One students meet in groups with a Title One teacher. Typically, students are grouped according to grade level, not ability level. What the Title One students are taught is not dependent upon their individual needs, but on the needs of the entire group of students.

**Teacher Rank**

Reading Recovery students were also compared to Title One and Comparison subjects using another measure of performance, teacher ranking. Based on the teacher rankings collected for third grade students, Comparison subjects were rated the highest in the classroom by their teachers with a mean rank of 6.8. Reading Recovery students received a mean rank of 8.1. Title One students received a mean rank of 12.8.

The teacher ranking of Title One students could be influenced by the amount of time the students spend out of the classroom for reading instruction. Reading Recovery and Comparison students receive reading instruction in the regular classroom with the rating teacher. Title One students are out of the classroom for the majority of their reading instruction.

Otherwise, however, the findings of teacher ranking supports the results from other research collected. Teacher rank is an important measure because teachers are able to observe individual growth as they work with each child on a
daily basis. This measure gives another view of how students are performing in the classroom compared to the rest of their same age peers.

**Summary**

Comparing Reading Recovery students to Title One students allowed the researcher to see the results of two remedial reading programs. Title One and Reading Recovery are different from each other and have distinct philosophies.

A goal of Reading Recovery is for the students that participate in the program to be able to achieve and continue to make progress in reading in regular classroom instruction. In first grade, students who are eligible for Reading Recovery assistance are achieving below the 10\(^{th}\) percentile in regular classroom reading instruction. Reading Recovery's individualized lessons give each child the opportunity to receive intensive instruction in order to make an immense amount of growth. The goal of Reading Recovery lessons is to teach students how to become better readers by teaching reading strategies and building on student's strengths. Reading Recovery students who show enough growth can be placed back in the regular classroom for reading instruction.

This study looked at ITBS, CBM, and teacher ranking to determine whether Reading Recovery students were able to overcome starting below the 10\(^{th}\) percentile in reading. The results found that Reading Recovery students were no longer the lowest 10\(^{th}\) in the classroom. More than half of Reading Recovery students ITBS scores were above the 40\(^{th}\) percentile in second and third grade and only slightly below half of Reading Recovery students were
above that 40th percentile in fourth and fifth grade. Their mean CBM scores were only 3.2 WPM lower than Comparison students. Reading Recovery students' mean rank was competitive with Comparison students' mean rank. Based on the results of this study, Reading Recovery students did not outperform students who had never required remedial reading assistance; however, many were able to overcome their deficit in reading and achieve at a level above the 10th percentile.

One major difference between Reading Recovery and Title One is the criterion for being placed in the program. In first grade, Title One students have difficulty being successful in the regular classroom reading setting. Students who are eligible for Title One services are achieving above the 10th percentile but below what is expected in the regular classroom. In order to be more successful in reading, they participate in reading instruction that is more at their ability level. Title One uses a group format to allow teachers to instruct many students at the same time. Students who are struggling in reading in the regular classroom are put in a setting where the expectations are not as high.

The goal of Title One isn't necessarily to increase their performances enough to place them back in the regular classroom for instruction. Students who are in Title One are not reading at the same level and rate as their peers in the regular classroom. For them to stay in the classroom for instruction would be frustrating. As the other students continue to acquire new concepts, Title One students would continue to fall behind without the additional assistance they receive in the program.
In this study, Title One students consistently scored below Reading Recovery and Comparison students on the ITBS, CBM, and teacher ranking. Although Title One students continue to achieve in the remedial program, the majority of students' ITBS scores are below the 40th percentile. Compared to Reading Recovery and Comparison students' CBM scores, Title One students scored much lower. Their mean score of 30 was 8.2 WPM lower than Reading Recovery and 11.4 WPM lower than Comparison students. Title One students' mean teacher ranking was 12.8. This can be expected because these students have been identified as still needing remedial reading instruction, whereas Reading Recovery and Comparison students are considered capable of receiving reading instruction in the regular classroom. Since Title One instruction is at a slower pace than regular classroom instruction, students in the program are not expected to be able to compete with peers who are in the regular classroom for reading. It is evident that Title One students are not achieving at a level that would be competitive with Comparison students, however, they are in a program that allows them to continue to increase their reading skill level, just at a slower pace than Comparison students.

Comparison students have not had a considerable amount of difficulty in regular classroom reading instruction. Any difficulty had could be addressed through slight modifications in the general education setting. Comparison students have never qualified for additional reading assistance and continued to make progress in reading as they went through school. The students in this
study's mean ITBS scores remained around the 50\textsuperscript{th} percentile through to fifth grade. In the regular classroom curriculum, Comparison students were able to successfully continue to acquire new reading skills.

This study used a variety of measures to determine how students who were in the Reading Recovery program performed in reading after being successfully discontinued from the program. Further study needs to be done using an increased number of subjects and including baseline data in order to expand on the results of this study. The data collected found consistent results, that Reading Recovery students are not able to outperform students who did not need any remedial assistance. However, students who participated in the Reading Recovery program were able to make considerable progress. Reading Recovery students who began below the 10\textsuperscript{th} percentile later became successful with regular classroom instruction. The Reading Recovery program seems to provide some students who would otherwise be unsuccessful in regular classroom reading instruction, the skills needed to improve their achievement in reading.


