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Reading Recovery

Abstract

This study reviewed the literature on Reading Recovery, an early intervention program designed to improve first grade students reading performance. A review of the theoretical and research basis for Reading Recovery examined the effectiveness of the intervention.

The following questions were addressed: (a) How was the Reading Recovery program developed? (b) What are the components of a Reading Recovery lesson? (c) What is the process of implementation for Reading Recovery? (d) What are the strengths and weaknesses of Reading Recovery? (e) What determines the effectiveness of this reading program? (f) Do students who participate in Reading Recovery have continued success?

Reading Recovery builds on students' strengths and instills the development of self-monitoring within a reader. The difficulties of implementing Reading Recovery include the support within the school, the number of trained teachers, and cost. When a school successfully implements Reading Recovery, the program is seen as an effective alternative for first grade children with reading difficulties.

READING RECOVERY

An Abstract of a ███ *Masters Paper*

Submitted

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

Wendy Neagle

University of Northern Iowa

July 2000

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This study reviewed the literature on Reading Recovery, an early intervention program designed to improve first grade students reading performance. A review of the theoretical and research basis for Reading Recovery examined the effectiveness of the intervention. The following questions were addressed: (a) How was the Reading Recovery program developed? (b) What are the components of a Reading Recovery lesson? (c) What is the process of implementation for Reading Recovery? (d) What are the strengths and weaknesses of Reading Recovery? (e) What determines the effectiveness of this reading program? (f) Do students who participate in Reading Recovery have continued success? Reading Recovery builds on students' strengths and instills the development of self-monitoring within a reader. The difficulties of implementing Reading Recovery include the support within the school, the number of trained teachers, and cost. When a school successfully implements Reading Recovery, the program is seen as an effective alternative for first grade children with reading difficulties.

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July 2000

This Research Paper by: *Wendy Neagle*

Entitled: *Reading Recovery*

has been approved as meeting the
research paper requirement for the Degree of

Master of Arts in Education: Educational Psychology

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CHAPTER I

Introduction

Children who have early difficulty with reading often need extra time and special help in the initial stages of learning to read (Pinnell,1990). Reading Recovery is one early intervention program that enjoys widespread implementation, although research support of the program's efficacy is scant. In this paper, Reading Recovery is described, the available research is critiqued, and suggestions for future research are offered.

In 1984, Marie Clay, a New Zealand psychologist and educator, developed the Reading Recovery program. Her program has been used in New Zealand since 1986 and is currently being implemented in more than 32 states in the United States as well as Canada, England, and Australia (Lyons, 1991).

One significant feature of Reading Recovery is that it is not considered a remedial program. It is an early intervention program for children who demonstrate difficulties in the early stages of learning to read. Reading Recovery supporters emphasize that the time to intervene is before the students feels that they have failed.

The purpose of this paper is to critique the effectiveness of the Reading Recovery program. The theoretical basis for the use of Reading Recovery and the

Reading Recovery program will be described. Results will be discussed in terms of whether Reading Recovery is an effective program for helping low achieving readers in first grade. The following questions will be addressed:

1. How was the Reading Recovery program developed?

2. What are the components of a Reading Recovery lesson?

3. What is the process of implementation for Reading Recovery?

4. What determines the effectiveness of this reading program?

5. What are the strengths and weaknesses of Reading Recovery?

6. Do students who participate in Reading Recovery have continued success?

Importance of the Study

It has been suggested that our understanding of how young children read has been extended through the development of Reading Recovery. There is growing debate about the effectiveness of Reading Recovery in increasing low achieving children's reading ability. In this literature review, the effectiveness of the Reading Recovery program will be addressed and directions for further research will be provided.

Explanation of Terms

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

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 that 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 re-administered Observation Survey scores. The child must reach at least the level of the average classroom performance in first grade.

Dismissed Child- a student who does not make accelerated progress in Reading Recovery after an prolonged period of time.

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 sixty 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 sixty or more lessons or who were successfully discontinued from the program prior to having received sixty lessons.

Random Sample Children- children who were randomly selected from the population of first grade children. (Children who previously received any Reading Recovery lessons were deleted from the sample).

Readable Text- material that the child can read at approximately ninety percent accuracy or better. The child's accuracy is measured by running records.

Roaming Around the Known- During the first ten days of the student's program the teacher observes the child's strategies so that instruction can be built on what is known using the child's strengths to support new learning.

Running Records- a systematic notation system of the teacher's observations of the child's processing of a new text.

Self-generated Sentences- sentences or statements the child makes that reflect the child's reading ability.

Teacher Leaders- teachers who are trained and certified to train other teachers to be Reading Recovery teachers.

Text Reading Level- one measure of the Diagnostic Survey. Levels 9 through 12 are within primer range; levels 14 through 16 represent a first grade reader; levels 18 through 20 represent a second grade reader. The highest level,30, is a sixth grade level passage.

CHAPTER II

Literature Review

Background Information

Reading Recovery is an early intervention program developed to help the lowest achieving students in first grade reading be successful. Reading Recovery is based on Marie Clay's research that focused on behaviors that signal the internal processes of young readers and provide teachers with effective ways to observe a student's reading and writing ability (Clay, 1993). Clay studied the characteristics of good reading and writing behavior, as well as the characteristics of students who were having reading difficulty.

Following are the specific strategies and processes that Clay believes all effective readers need to use.

First, children must develop strategies early for use with print. Included in these strategies are left-to-right eye movements across the page, voiceprint match, and the eye movement at the end of the line back to the beginning.

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.

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.

Fourth, children must search for clues as they read. Good readers always seek and use clues from experience through language, pictures, and the configuration of what is being read. Being an active problem solver builds reading skills.

Finally, 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, p. 166-167).

Clay saw these characteristics of reading as significant components of being an effective reader. She used these components to develop the Reading Recovery program, designed to bring the lowest achieving readers in first grade to the average of their class in 12 to 16 weeks (Barnes, 1997). In an early study of Clay's (1993), lower achieving children made greater than average progress during this relatively brief intervention period. They caught up with their peers and continued to work independently in the regular classroom (Clay, 1993). Clay contends that Reading Recovery provides an opportunity for the lowest achieving children to accomplish the goal of literacy.

Description of the Reading Recovery Program

Instructor Training

The success of the Reading Recovery program is dependent on the decision-making of Reading Recovery teachers. How well each Reading Recovery teacher is able to make decisions is dependent on training received (Jongsma, 1990). Throughout each lesson, the teacher must observe and interpret a child's responses in order to design lessons to maximize the use of that child's strengths.

Reading Recovery training requires that at least one teacher leader from a district attend a Reading Recovery training center for one academic year. During this year, the teacher attends professional classes on the basic concepts, learning theory, and professional practice of Reading Recovery instruction, as well as completing a rigorous internship to gain hands-on teaching experience as both a Reading Recovery teacher and teacher leader (Jongsma, 1990).

It is necessary for the teacher leader to understand every theoretical and practical implication of the Reading Recovery program (Jongsma, 1990). After a year of training, the teacher leader returns to the district to conduct training for teachers in the district or group of districts. They must have the skill to lead and train teachers, supporting them as they make important changes in their teaching practice. Teacher leaders also work with

administration to implement the program in the district and to educate the community about the nature and function of the program (Dyers, 1992). There are competing ideas about the effectiveness of Reading Recovery and it is necessary for teacher leader to understand all those ideas in order to promote the program effectively in their school.

Teacher leaders teach Reading Recovery teachers in training through lectures, discussions, and practice in weekly sessions for an entire academic year. While being trained in diagnostic techniques and intervention procedures, teachers are simultaneously working with children. It is possible for them to apply what they are learning and see the immediate results of their decisions.

Throughout the training process, every teacher must teach three lessons "behind the glass." (Clay, 1991). This consists of teaching a Reading Recovery lesson with a student in a smaller room while the rest of the class observes from behind the one way glass. During this time, the teacher leader discusses what is going on with the rest of the class. This intense discussion is intended to extend the understandings about teaching in relation to the issues raised during the "behind the glass" lesson (Jones, 1991).

After formal instruction, the teacher leader observes each teacher four times throughout the first year. These observations are considered to be a part of Reading Recovery training (Jones, 1991). The Reading Recovery

teacher needs to become an expert at responding from moment to moment to each child whose ability is very different than other children, and to do this in a way that is consistent with the philosophy of the program (Dyers, 1992). It is important for teachers to continue to improve as they become more familiar with teaching Reading Recovery lessons. The teacher leader continues to monitor new Reading Recovery teachers' progress. Without an effective training structure to ensure that Reading Recovery teachers are able to teach effectively, the program will be less successful.

Selection Process

The process of selection for Reading Recovery begins with the recommendation of the child's first grade teacher. The teacher is most aware of how the child's achievement compares to that of peers. Second, the Diagnostic Survey, developed by Clay to identify students for the program, is administered individually. The instrument includes six measures that represent different aspects of reading and writing (Clay, 1988). While completing the Diagnostic Survey, the child uses books and writing to interact with the teacher in an informal way. The scores from the Diagnostic Survey 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 and also 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 that are frequently used in the reading materials of the child's school district. The teacher documents how accurately the student reads the words in order 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 section, the child is asked to write all the words she knows on a blank piece of paper. There is a time limit of ten minutes and the teacher is able to prompt the child as needed.

5. In the Dictation section, the teacher reads a simple sentence containing 37 phonemes. The child is asked to analyze the word and to represent the sounds heard.

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.

Throughout all these sections, the teacher's judgement and ability to analyze the child's performance is critical. The numerical scores the child receives on the Diagnostic Survey are used to justify the need for additional help (Clay, 1988). Scores also are used to document the child's progress as she proceeds through the Reading Recovery program.

After the Diagnostic Survey is completed, there is an evaluation 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, 1993). 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.

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.

Two kinds of learning take place in a Reading Recovery lesson. 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, 1993). 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, 1993). The child should be able to reread the book with 90-95% accuracy when the appropriate level is selected (Pinnell, DeFord, & Lyons, 1993). 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, 1991). 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, 1991).

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 (Cunningham & Cunningham, 1992) 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, 1991).

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, 1991).

Marie Clay (1991) 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.

Reading Recovery children spend 30 minutes per day for 14 to 16 weeks receiving Reading Recovery instruction. Children are continuously building on what they already know.

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, 1993). 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: (a) 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. (b) 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? (c) Throughout each Running Record analysis, has the child read increasingly difficult material at 90% accuracy or above? (d) 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, required level of text, 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 ability. However, there are some activities a child should be able to do before being discontinued. First, the child should have control 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, 1993). 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, 19990). 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 (1991) 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, 1991).

Reading Recovery Student Example Situation

The results from the first few years of implementation
of Reading Recovery in schools indicated that the program
had positive outcomes for children who were initially
determined to be at risk for failure in reading. Two-
thirds or more of the students who received Reading
Recovery instruction made accelerated progress and
performed within the average range of their classes.

The progress of a child who received Reading Recovery
was documented in order to help others have a better
understanding of how the program worked. Melanie was a 6
year old who was determined to be at risk in first grade.
She was receiving help from her teachers on words, sounds,
and letters but was unable to use her knowledge of these
items when she read a text. It was determined that Melanie
needed more individualized instruction in order to increase

her reading ability. At that time, Andrea, an experienced

Reading Recovery teacher, began working with Melanie. At

first, she conducted a thorough assessment of Melanie's

knowledge and skill. According to Andrea:

> Melanie had a very high letter knowledge. That
> is not surprising since she had participated in a
> formal kindergarten with a curriculum focusing mainly
> on letters and sounds. She could write her name,
> "is," "no," "cat." Although she had participated in a
> strong phonics program, she did not show on the
> assessment that she could analyze words and represent
> them with letters in writing. She was not producing
> the kind of "invented spellings" that indicate
> children are working on sound analyses.
>
> She could identify the front of the book and
> locate some letters in a text, but she was confused
> about some basic concepts about print, for example,
> the difference between words and letters, the concept
> of "first" and "last" in reading, where to start
> reading, and directionality. She even had some
> confusions about whether the print or the pictures
> carried the message.
>
> When she tried to read a story she was able to
> approximate the story and attend to the meaning
> carried in' the pictures. But, even with a lot of
> assistance, she was not attending to print. She
> "invented" text but did not notice discrepancies
> between her version and the actual text (Pinnell,
> 1990).

After determining what Melanie was capable and not capable

of doing, Andrea was able to prepare Reading Recovery

lessons based on both strengths and weaknesses. Throughout

each lesson, Andrea administered a running record to

determine whether Melanie was continuing to make progress.

The running record was analyzed to determine what

information in and outside of the text Melanie could read.

Andrea recorded Melanie's text level weekly, as well as

keeping records of what words she could write independently

each day (Pinnell, 1990).

By the fourth Reading Recovery lesson, Melanie was already making progress. While reading, Melanie showed evidence of searching for information by monitoring and making successive attempts on words. She was becoming aware of the discrepancies between her reading and the text. Even though she was not sorting them out to read accurately yet, she was on her way to effectively self-correcting her reading, a major goal of Reading Recovery (Pinnell, 1990). Melanie continued to search for meaning clues by checking pictures and starting over many times. During this lesson, Melanie showed the earliest signs of simultaneously using meaning, language structure, and visual information.

During Melanie's 11th lesson, she attempted to read a book with some repetition. At first, she struggled through some of the words. After reading a few sentences with some mistakes, Melanie went back to the beginning and read the entire passage accurately, self-correcting all errors. Melanie was working independently, actively searching for information, and solving all of her problems.

Close to the end of the program, Melanie was working on writing passages. She was able to write most of the message independently continuing to work out words she did not know automatically. Andrea watched Melanie problem solve and was aware of what she was thinking when figuring out words.

Melanie continued to make steady progress until she was "discontinued" from the program after 36 lessons. At that time, Melanie's classroom teacher stated that she was reading in the upper third of the class and was able to handle her assignments. Several months later, Melanie continued to make progress on her own. Reading Recovery was a successful intervention for Melanie as she continued to grow in her reading and writing ability.

Throughout each lesson, Melanie continued to make significant progress towards her goal, achieving at the average first grade reading level. Reading Recovery research suggests that many children have the same experience in the program as Melanie.

<u>Reading Recovery Research</u>

Clay's research was the basis for the development of the Reading Recovery program. She investigated the strategies good readers used and combined the results to develop a program that would teach low achieving first graders to use similar strategies.

The effectiveness of Reading Recovery has been researched extensively by both advocates and opponents. Opponents believe that Reading Recovery is not a cost effective program, that students do not maintain the gains from the intense intervention, and that other reading programs are more successful. Reading Recovery advocates continue to conduct research to prove the effectiveness of the program.

Reading Recovery vs. comparison intervention

Some studies compare the success of students who received Reading Recovery lessons to the success of students in a control group. The control group received instruction from instructional assistants who were specially trained to work with individuals and small groups on the skills that were expected in reading group work. In 1984, Reading Recovery was introduced into the United States through a pilot study in Ohio (Pinnell, 1990). The purpose of the Ohio Reading Recovery project was to replicate the Reading Recovery intervention process with Ohio teachers and to conduct research to determine whether Reading Recovery interventions would be beneficial to "at risk" children in Ohio schools.

Children were gathered from six urban schools with high proportions of low income students. In each school, two classrooms were randomly selected as the program classroom, and two classrooms as a comparison classrooms. The students in the program classrooms received Reading Recovery lessons. The comparison children participated in an alternative reading intervention. The Reading Recovery students (N=55) were the lowest achieving reading students in the program classrooms. The comparison children (N=55) were the lowest achieving reading students in the comparison classroom.

The individual lessons for Reading Recovery children began in January and continued until the intervention was

discontinued or the school year ended. The average number
of lessons given to Reading Recovery children was 60.7, the
equivalent of 12 weeks of instruction (Pinnell, 1990). In
May, the Reading Recovery and control children were
retested using the diagnostic survey and administered the
Stanford Achievement Test.

Reading Recovery (RR) and comparison children (C)
began the year with similar scores on Letter Identification
(RR=37.93; C=41.87) and the Basal Word Test (RR=3.47;
C=4.15). At the end of the year, both groups maintained
similar scores on Letter Identification (RR=50.85; C=50.64)
and the Basal Word Test (RR=12.51; C=13.11). On Concepts
about Print, scores were similar in the beginning of the
year (RR=9.73; C=8.96), but in May, Reading Recovery
children scored significantly higher (RR=16.64; C=14.45).
In September the two groups had similar scores on Writing
Vocabulary (RR=5.69; C=6.19), but in May Reading Recovery
children wrote significantly more words than the comparison
children (RR=35.60' C=26.23). On the Dictation Task,
Reading Recovery children scored lower than comparison
children in September (RR=6.96; C=8.64) but higher in May
(RR=29.20; C=23.91). On Text Reading Level, the two groups
scored similarly in September (RR=2.35; C=2.64). In May,
Reading Recovery children scored significantly higher than
the comparison children (RR=9.24; C=7.36).

In summary, students who received Reading Recovery
lessons performed higher than comparison students in the

following sections of the diagnostic survey: a) Concepts about Print, b) Writing Vocabulary, c) Text Reading, and d) Dictation Task. Reading Recovery students performed the same as the comparison students on Letter Identification and the Basal Word Test.

On Concepts about Print, Dictation, Writing Vocabulary, and Text Reading Level, the mean of the Reading Recovery children was within the average range, ±5 SD from the mean of the total population. This means that Reading Recovery students had increased to the reading level of an average first grader. The mean of the comparison group was below this average range. The Reading Recovery children also scored higher than comparison children on the Standard Achievement Test (RR=35.99; C=25.89).

Subjects from the pilot study were followed during the second and third years after the intervention. The total group of Reading Recovery children included both discontinued children and those who were not considered to have successfully completed the program. Due to the mobility of the population, subjects in the follow-up study (N=87) included 44 Reading Recovery children and 43 comparison children. At then end of the second year, children were assessed on three dependant measures: (a) Dictation: Phonetic (RR=57.21; C=55.26), (b) Dictation: Spelling Accuracy (RR=12.46; C=11.63), and (c) Text Reading Level (RR=19.82; C=17.70). At the end of the third year, the same children were assessed on Text Reading Level,

which is considered the most critical indicator of learning since it represents a child's ability to read extended text (Pinnell, 1990). The Reading Recovery children achieved a mean text reading level of 19.82, while the comparison children achieved a mean text reading level of 17.70.

A goal of the Reading Recovery program is that children who meet the criteria for discontinuing will continue to make average progress in reading without additional compensatory help. To address this issue, the Reading Recovery children were compared with the average range of text reading scores of a random sample of children from each grade at the project schools (Pinnell, 1990). The Reading Recovery children were within the average range through third grade.

Full Implementation of Reading Recovery

The previous research was done during the pilot year of Reading Recovery and the results were used to determine whether the program should be fully implemented in this Ohio district. In continuation of the pilot year study, the major objective of the following year of research in Ohio was to determine whether Reading Recovery was an effective intervention program during the first year of implementation after the pilot study (Lyons, 1991). Classrooms taught by a teacher familiar with Reading Recovery were designated as program classrooms. All other first grade classrooms in the school were called regular classrooms.

All the subjects were first grade students in urban schools. Children in the lowest 20% achievement group in reading were identified using the Diagnostic Survey and teacher judgment. All of the lowest achieving children in the program classrooms were assigned to Reading Recovery. In the regular classrooms, the lowest 20% were randomly assigned to Reading Recovery or to another compensatory program. The alternative compensatory program, administered by a trained professional, provided daily service all year for first grade children and focused on drill and practice of the skills children were learning in classroom instruction. Reading Recovery lessons (average per child=67) were provided daily until the child reached average levels for the class. At that time, the child was released and no further help was provided.

In October and May, subjects were assessed on (a) Letter Identification, (b) Word Test, (c) Concepts about Print, (d) Writing Vocabulary, (e) Dictation, (f) Text Reading, and (g) Writing (Lyons, 1991). To provide a comparison, a random sample of 102 first grade students in project schools were tested on the same measures.

The Reading Recovery children performed higher than comparison children on all the sections of the diagnostic survey (Lyons, 1991). The May scores of the discontinued Reading Recovery children were compared with the average range. Over 90% of the discontinued students were within or exceeded the average range on Text Reading, Word Test,

Letter Identification, and Dictation. On Concepts about Print, 86% met or exceeded the average. 77% met or exceeded the average range on Writing Vocabulary and 68% met or exceeded the average on the writing scale.

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.

RR vs. Chapter I, Special Education, & Grade Retention

Comparing children's progress through the Reading Recovery program with other children's progress with compensatory help is a common theme of Reading Recovery based research. A study known as the Early Literacy Research Project studied four different reading interventions: Reading Recovery, grade retention, Chapter I, and special education programs (Pinnell, DeFord, & Lyons, 1988). This study described each reading intervention in terms of financial cost to the district, typical educational outcomes, content of education, guidelines for acceptance, and environmental influences. Results of indicated that Reading Recovery had a higher success rate for than special education, Chapter I, and grade retention and recommends implementation in elementary schools.

The Early Literacy Research project presented national data about the success of students in each of the four interventions: grade retention, Chapter I, Reading Recovery, and special education. Researchers found that over 2.4 million students are retained in a grade annually in the United States. There are many negatives effects of grade retention. First, 2.4 grade retentions costs the United States almost $10 billion (Sheppard & Smith, 1990). Secondly, previous research indicates that retaining students has little or no positive effect on students' education. In fact, a correlation has been made between

grade retention and dropping out of school. (Sheppard & Smith, 1990).

An additional study by Lyons and Beaver (1995) compared grade retention to Reading. Researchers studied school districts that have implemented Reading Recovery as their remedial reading program. Prior to the introduction of Reading Recovery, the Upper Arlington School District in Ohio retained an average of 10 students in first grade each year. In the five years since the program was implemented, the district has retained a total of 17 students. 33 fewer students were retained during the implementation of Reading Recovery.

The U.S Department of Education reported that one out of every nine children in elementary and secondary schools is served by Chapter 1 (Dryer, 1992). Approximately 21% of the Department of Education's budget, almost $6.1 billion, is used to fund Chapter 1. A typical Chapter 1 program consists of remedial reading instruction in pull out groups of five children for 35 minutes every day. An evaluation of Chapter 1 by Allington and McGill-Franzen (1990), showed that most programs consisted of skill and drill type reading instruction. The evaluators found that this structure resulted in lower expectations and decreased the amount of progress made by the students. Students typically remained in Chapter 1 programs for an average of 5 years or until it was no longer available at their grade level. Unlike Reading Recovery, students enrolled in Chapter 1

programs do not receive reading instruction in the
classroom in addition to remedial help. For low achieving
first graders, Reading Recovery is a possible alternative
for Chapter 1. Children eligible for Reading Recovery are
usually within Chapter 1 guidelines which means that
schools can use Chapter 1 funds to implement Reading
Recovery programs (Dryer, 1992).

The third reading intervention discussed in the Early
Literacy Research Project was special education
instruction. Children who have difficulties reading and
writing are often classified as "learning disabled" and
receive special education services (Dryer, 1992). Reports
by the Department of Education state that the number of
children classified as "learning disabled" more than
doubled during the last decade. Clay (1987) discussed the
difficulty of trying to separate children who have true
"learning disabilities" from those who have reading
difficulties that are caused by external influences such as
emotional problems or being brought up in a disadvantaged
environment.

Lyons (1989) asserted that many children classified as
"learning disabled" were really not disabled but were only
having initial difficulty learning to read. In his study,
he found that 73.3% of "learning disabled" children with
reading difficulty in first grade who were placed in the
Reading Recovery program developed necessary reading
strategies. They continued to read and write at an average

level after approximately 13 weeks of remedial reading instruction.

In special education programs, students with reading difficulty are taught limited reading strategies at a slower pace (Pinnell, 1989). Research by Allington and McGill-Franzen concluded that "too often these interventions provide no educational advantage to the children who participate in them, even though the added costs are often substantial" (1990, p.8).

Even though this study indicated that Reading Recovery had the highest ratings, the issue of cost is controversial for each of the four previously researched interventions (see Appendix A). Labeling students as "learning disabled" or in need of other special education services enables the district to receive additional funds from the state and federal government. When school districts implement Reading Recovery they lose funding because the number of students in special education or Chapter 1 lessens. In addition to the decreases in funding, the cost of implementing Reading Recovery is also higher than many districts are willing to pay. The cost of implementing Reading Recovery depends on the number of teachers the district trains at a cost of $33,015 per teacher (Dyer, 1992).

However, advocates of Reading Recovery argue that school districts need to consider both the annual and cumulative costs of the intervention. Researchers compared

the amount of time children spend in each of the reading interventions and figured the total cost of the interventions (Allington & McGill-Franzen, 1990). When the cost for Reading Recovery was calculated in this manner, Reading Recovery was a more cost effective reading intervention (see Appendix A).

Retaining a student in their current grade means that the district must add another full year of schooling at the annual per-pupil expenditure, a total of 1080 hours. The cost of retention depends on the guidelines of the district, however, it is important to take into consideration the entire cost of the intervention when comparing grade retention to the alternatives.

Chapter 1 student placement typically lasts for an average of 5+ years. The special reading instruction is rendered for approximately 105 hours per year. The major financial costs of this intervention are the salaries of the Chapter 1 teachers who provide instruction (Sheppard & Smith, 1990).

A child who is placed in a Special Education pull out program spends an average of 252 hours each year in a resource room. It was found that students typically continued to receive services for six years in elementary school and some students continue in Special Education throughout their school careers (Collins, 1990). The major financial cost of this intervention was also the salaries of the teachers who provided Special Education instruction.

The final intervention, Reading Recovery, had the smallest time commitment of all of the reading interventions investigated in this study. The maximum number of hours a student spent in this program was 40 hours if the student spent 30 minutes every day for 16 weeks. The major costs of Reading Recovery was the initial teacher training and the salaries of the Reading Recovery teachers.

The Early Literacy Research Project determined that schools face difficult decisions about the most effective way to use resources to benefit the children. Chapter 1, grade retention, special education, and Reading Recovery are all possible interventions used to assist children with learning difficulties. Reading Recovery seen as the most cost effective intervention for first grade children with below average reading ability.

A study similar to the Early Literacy Research Project looked at how retention rates, Chapter I placements, and special education placements were reduced after the implementation of Reading Recovery. At the Wareham School District in Massachusetts, the retention rate was reduced from 14 to zero in the first year of Reading Recovery (Zimmaro, 1991). During the previous five years, grade one retentions averaged 12 children per year. The year that Reading Recovery was implemented, all children successfully passed to the second grade and continued to be successful in reading.

Similar studies found that school districts who implemented Reading Recovery can also expect to reduce the number of children placed in Chapter 1, remedial reading programs, or Special Education pull out programs (Zimmaro, 1990). Hammond East and West in the Wareham School District implemented Reading Recovery in the 1990-91 school year. The number of children receiving Special Education placements for kindergarten and first grade was reduced from 31 in 1989-90 to 16 in 1990-91. Reducing the number of students who are retained, in Special Education, and Chapter 1 programs not only saves a school district money, but also allows more students to continue their education with the rest of their peers.

An additional school district, Western Reserve School District in Ohió, implemented Reading Recovery in five first grades in two schools. The year before starting the Reading Recovery program, the district retained 24 students in first grade. In the staff training year, 19 students were retained. During the first program year, nine students were retained. In the second year of the program, only one student was retained (Yukish, 1989). Lowering the number of students who are retained saves a district approximately $5,208 per student as well as keeping more children in regular education classrooms throughout their school career.

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.

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 significant progress was made by students who participated in Reading Recovery. 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, student 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 accelerate 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 accelerate 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.

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. 23 surveys were distributed to in-training teachers with a return rate of 100%. In-training teachers indicated they had learned a great deal about the reading process and the teaching of reading this year.

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 1 (not a very good program) to 5 (a very good program) scale, 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 was studied in the 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 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 have received their reading instruction in the regular classroom. Each of the 30 students was randomly selected from each population of students in third grade.

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 reveals the Reading Recovery students' mean score of 3.6 compared to a mean score of 3.4 for the other students (Mount, 1996). There is no statistically significant difference between the treatment or control 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 regular classroom.

The results of this study indicated that Reading
Recovery students do not have a higher achievement level
than regular students, however, they are at the same level
as their peers. 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 regular
classroom.

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 ability to students who received an alternative
intervention. The long term effectiveness of Reading
Recovery was also monitored through reading tests. Wang
and Johnstone (1997) studied whether the group of children
who successfully completed Reading Recovery could read
material that matched the average range of ability 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 in an average of 60 lessons and were
officially released from the program. Second, a random

sample of Chapter/Title 1 students from schools that did not implement Reading Recovery. Third, a random sample of students from the same grade level who had not participated in Reading Recovery or Chapter/Title 1.

Wang and Johnstone (1997) asked the following research questions: (a) Do the majority of the Reading Recovery discontinued students avoid referral to any remedial programs after first grade? (b) 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. Wang and Johnstone (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. This difference was found across three years. From the 1992-93 school year through the 1994-95 school year, the percentiles ranged from 51.4% to 57.4%. 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 scores of

the sample of students in first grade were above the 40th percentile from 69.3% to 73.2% over 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 never been referred students, Wang and Johnstone (1997) discovered a pattern. Discontinued Reading Recovery students appeared to maintain 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.

CHAPTER III

Summary and Implications

The purpose of this study was to review and critique goals of Reading Recovery and research on its effectiveness.

Traditional remedial programs such as Chapter 1, grade retention, and special education are not as able to increase students' reading ability as Reading Recovery instruction(Clay, 1991). Children with reading delays learn less and less over the years while their more academically successful peers continue to learn more. The long term value of early intervention programs include fewer grade retentions, fewer referrals to special education, lower drop out rate, and a higher likelihood of employment as young adults.

As an early intervention option, Reading Recovery is supported by the findings of many researchers, including Pinnell (1988). Pinnell is one of the most influential Reading Recovery researchers. Pinnell supports the Reading Recovery program based on programmatic research completed by Ohio State University. In the first 6 years of the Ohio State Project, successful discontinuation rates ranged from 73% to 88% (Pinnell, 1988). Pinnell (1989) concluded that two-thirds of the children who participated in the Reading Recovery program made accelerated progress and performed within the average range for their classes. Children typically continued to make progress at least two years

after the intervention. For the children that participated
in Reading Recovery but did not make accelerated progress,
there were alternative interventions to try. Reading
Recovery is not a perfect program nor a program for
everyone. However, the standardized test scores of
discontinued Reading Recovery students continue to show the
benefits of the program.

Most of the research completed on Reading Recovery
examined the effectiveness of the program. Reading
Recovery's effectiveness included the discontinuation rate
and whether students continued to make average progress in
subsequent grades. Schotanus (1994) asked seven questions
about Reading Recovery in a New Hampshire School District.
She concluded that approximately 84% of Reading Recovery
students were successfully discontinued. The findings of
this study were comparable to the results of other
research.

Although Reading Recovery has a high success rate, the
program is expensive and serves a small percentage of first
grade students who qualify for the intervention. The
number of at-risk first graders continues to grow
(Johnstone & Wang, 1997). Individual schools need to
assess the needs of their entire elementary reading program
and tailor the program to impact all at-risk children. An
example of an intervention program that attempts to
instruct increasing numbers of at-risk children is the
Midwestern Model.

The Midwestern Model uses a different technique when implementing Reading Recovery in a school (Amussen & Gaffney, 1991). This model consists of two program teachers working cooperatively in one first grade classroom. While one teacher provides individualized instruction for students, the other teacher works with the entire class using Reading Recovery support and strategies. This technique is an alternative to only using Reading Recovery with the lowest achieving 20% of first graders. There are two benefits to using the Midwestern Model. First, the children who receive individual Reading Recovery lesson will be able to apply their newly acquired knowledge in the classroom. Secondly, the first graders in the classroom will benefit from the Reading Recovery strategies.

Reading Recovery is a successful early intervention for many delayed, young readers. The program's success depends on the complex way factors interact relative to the individual child and her teacher. Reading Recovery can be one part of what is necessary as we attempt to create better futures for low achieving readers.

Implications for Research

The research completed on Reading Recovery has addressed a variety of issues. One issue not researched is whether teachers in training are qualified to work with children. What type of training do Reading Recovery teachers receive? Another related issue is the

availability of the Teacher Leaders. It is important that the Teacher Leaders are readily available to provide assistance to teachers in training and certified Reading Recovery teachers. In some smaller districts, there is one Teacher Leader for many school districts. Is there specific number of days that a Teacher Leader is required to be at each school?

The Midwestern Model uses the cooperation of two teachers to ensure that all first grade students and Reading Recovery students are successful in reading. If this method were used in all the schools that have implemented Reading Recovery, would more students continue to be successful readers? Reading Recovery only assists the bottom percentage of first graders. Implementing Reading Recovery techniques all first grade classrooms could be beneficial to for more students. The cooperation between the Reading Recovery teacher and the classroom teacher enables all first graders to benefit from Reading Recovery techniques and strategies. More students could benefit from one on one instruction in reading.

One of the goals of this intense intervention is the lasting effects of the program. Low achieving students who participate in Reading Recovery should continue to make average progress throughout their school career. In order to determine whether this is happening, more research should be done on the long term effectiveness of Reading Recovery. Current research uses standardized tests to

determine how the children are performing. Using curriculum based measurement to determine the achievement level of students who completed the Reading Recovery program compared to their peers would be beneficial to research. Giving a random sample of second through sixth grade Reading Recovery students curriculum based measurement probes would determine the long term effectiveness of the program. Comparing the students' scores with students who have not participated in any remedial reading program would inform educators, parents, and researchers of the effectiveness of Reading Recovery.

Different interventions are successful for different students. As an effective intervention, Reading Recovery has helped many first grade children increase their reading ability. Continuing to implement this program in schools will be beneficial for many students. Schools need to offer additional effective interventions to ensure that all children who need help receive it through the most beneficial intervention.

APPENDIX A

Cost Analysis: Reading Recovery, Grade Retention,

Chapter I, and Special Education

Intervention	Annual Cost	Average. years in program	Total program timeper (hours)	Total Cost student
Retention (1st Grade)	$5,208	1 yr.	1,080	$5,208
Chapter I	$943	5 yrs.	525	$4,715
Special Education ("Learning Disabled")	$1,651	6 yrs.	1,512	$9,906
Reading Recovery	$2,063	1/2 yr.	40	$2,063

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