A COMPARATIVE STUDY OF THE READING PROFICIENCY OF DISCONTINUED READING RECOVERY STUDENTS WITH THEIR SECOND GRADE PEERS

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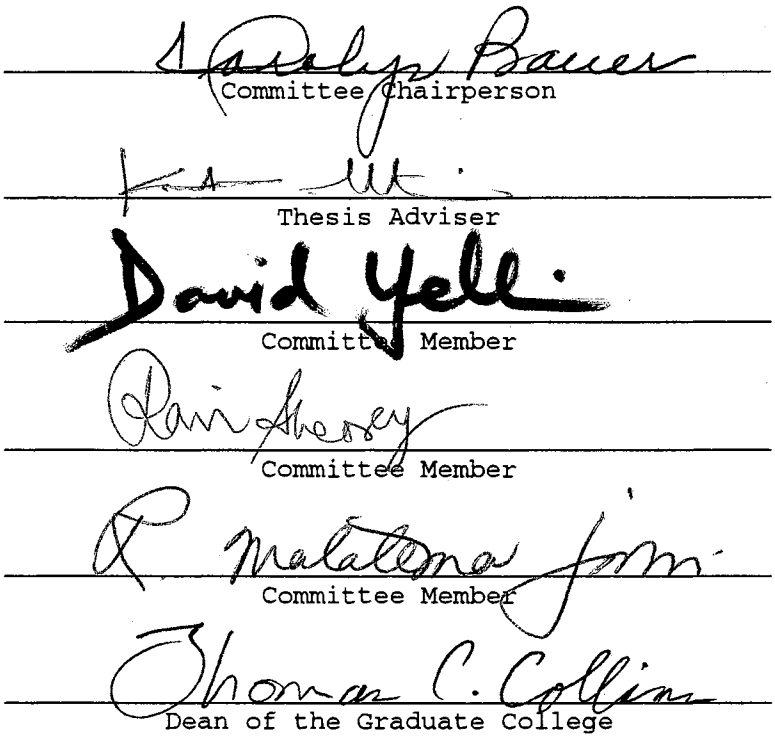

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CHAPTER I

THE RESEARCH PROBLEM

Introduction

Jason moves slowly to the stack of books placed invitingly in the reading center. His first grade peers whisper excitedly among themselves, clamoring about him to make their selections. He eyes the books reluctantly, stepping aside to allow others to brush past him. Several moments pass but Jason makes no move toward this source of past failures. The last of the students are seated comfortably in their chosen places, lost between the covers of their books. A final lingering glance at the teacher reveals tears which slowly surface and are released in rapid succession. No words are necessary as Jason returns to his seat empty-handed.

The scene is much the same, although fifteen weeks have passed. Jason, eager to be first to reach the treasures before him, makes his way through the crowd. He quickly eyes the stack of books and glances at the teacher with a confident smile. Cradling his treasures lovingly in his arms, he walks with sure footing. Jason returns to his seat, armed and ready to digest the pages before him. A final

glance at the teacher is met with a smile, his eyes shining with wonder and excitement.

Reading success is not met by all six or seven year olds with enthusiasm, excitement, or the promise of increased expertise. Jason is not a fictional character, but one of many beginning readers whose early literacy efforts have initially met with repeated failure. For such children, reading becomes a feat to be met against insurmountable odds. Like other first graders, Jason's membership to an exclusive *literacy club* (Smith, 1985) seemed out of grasp.

Jason recently successfully discontinued from the Reading Recovery Program after just four short months. He has now found his place of honor among the world of readers. Books have become his personal passport as the doors of future hopes open wide, the promises of literacy no longer passing him by!

Statement of the Problem

The level of literacy in the United States has become an area of growing concern in recent years (Kozol, 1985). A related and equally alarming factor is that of aliteracy, the ability to read but an unwillingness to do so (Decker, 1985; Kozol, 1985). Such readers find reading a chore, reading less frequently as time goes by. In many cases, this is due to repeated failures in learning to read.

When learning to read is not accompanied by reading practice, readers have little hope of increasing their

ability to read. In most cases, good readers choose to read frequently, while poor readers do not. In this way, their status as good readers or poor readers is perpetuated. Stanovich (1986) refers to this phenomenon as the *Matthew Effect* in reading. The rich (good readers) get richer; the poor (poor readers) get poorer.

To further complicate the Matthew Effect, opportunities for reading practice are not a focus in many school literacy programs. In *Becoming a Nation of Readers* (Anderson, Hiebert, Scott, & Wilkinson, 1985), the authors state that an average of only seven to eight minutes per day is devoted to sustained reading of connected text in the first grade reading instructional period, while an average of forty-nine minutes daily is spent on reading workbooks. The lack of authentic, or real reading opportunities, continues in spite of research to support that children do not learn to read, write, speak, listen, and think by contrived exercises, but through having real opportunities to read, write, listen, and think (Cooper, 1993).

The task of teaching children to read then becomes twofold. Early experiences in literacy must address not only *how* children learn to read, but *why* one should make a conscious choice to read. The desire to read enhances reading development as children practice their growing ability in the process of learning to read. This can be a strong motivator in itself, yet reading habits may be firmly in place by the end of first grade. Providing successful

early experiences and intervention when literacy experiences meet with failure becomes essential. Such early experiences should include helping children find a reason to consciously choose to read. A reading program designed to decrease failure must address both issues (Decker, 1985; Wilson, 1981).

Mounting literature on emergent literacy (Clay, 1967, 1991a; Teale & Sulzby, 1986) has increased our understanding of the impact both home and school have on early literacy development. Once children enter a formal school environment, early instructional experiences build upon the real world experiences they bring to school. The basis of this environment should be one in which literacy is nurtured, modeled, and valued. Active learners construct their own knowledge about reading and writing with assistance from literate adult models (Teale & Sulzby, 1989).

For some children, critical early literacy experiences have been withheld. Without this solid foundation, children lack essential early skills such as concepts of print, phonemic awareness, and book experiences. Such early learning serves to support children when entering a formal school setting.

Many educators are addressing the question of how schools can prepare for children who enter school without these early foundational experiences. Early childhood programs have become the focus for identifying ways to meet the needs of children in the early grades. It is in these

early stages that a supportive environment becomes critical in setting the stage for future success.

Juel (1988) found that nine out of ten children who have not learned to read by the end of first grade continue to lag behind four years later. This research illustrates that children who have difficulty in the early grades continue to remain behind in later grades. In other words, the gap widens as the likelihood of failure increases.

The necessity of early intervention strategies has been established (Hiebert & Taylor, 1994). Early identification allows schools to implement appropriate intervention before children fail. For most children, literacy failure can be prevented (Slavin & Madden, 1989; Stanovich, 1986). Early intervention programs which focus on accelerating learning through authentic reading and writing experiences respond to the needs of children experiencing early difficulties in learning to read. Providing such authentic literacy experiences implies the opportunity to learn to read and write through active participation in real reading and writing events.

The present study examined the effectiveness of one such program, Reading Recovery. Reading Recovery is designed to intervene early for children at risk of failure in the first grade in order to accelerate their progress and close the gap before it widens. By accelerating the progress of at-risk students, they are provided the opportunity for future successful participation in a regular classroom setting.

Significance of the Study

Reading Recovery has shown promising results in the identification and intervention of first graders at risk of failure in reading and writing. Research evidence has concluded that successful completion of the Reading Recovery program results in a positive effect on children's ability to become literate (Clay 1982, 1990, 1993b; DeFord, Lyons, & Pinnell, 1991; Hiebert & Taylor, 1994; Lyons, Pinnell, & DeFord, 1993; Pinnell, Short, Lyons, & Young, 1986; Smith-Burke & Jaggar, 1994). Substantial savings in costs resulting from the reduction in retention, remedial programs, and special education placement have been shown for Reading Recovery (Dyer, 1992; Swartz, 1992).

Reading Recovery is targeted for first grade students who represent the bottom 20% in literacy development. Through a systematic one-to-one instructional program designed to bring children to an average level, learners are immersed in authentic reading and writing experiences. During daily thirty minute sessions, a trained instructor remains close at hand to support the child in reading and writing efforts. The one-to-one nature of the program allows the Reading Recovery teacher to address the specific changing needs of each individual student on a day-to-day basis.

Reading Recovery is a short-term program, averaging twelve to fifteen weeks for most learners. Because it is designed to close the widening gap and bring children to an average level, it is considered to be an acceleration, rather

than a remedial, program. Without this acceleration, the gap between the at-risk student and his/her peers would remain, typical of a remedial program. By contrast, the focus of Reading Recovery is to accelerate the child's progress to such an extent that he/she may catch up to the literacy level of other learners in the classroom.

A goal of Reading Recovery is to provide students with an array of in-the-head strategies which can be applied during reading and writing. Good readers use a wide range of strategies which are orchestrated swiftly and unconsciously during reading (Clay, 1979, 1985). A strategic reader is one who consciously initiates strategies to apply to the text in order to enhance meaning. These strategies provide ways of working with the information in the text. Clay (1991a) describes this as "ways of finding it, storing it, filing it, retrieving it, and linking or cross-referencing one kind of information with another kind" (p. 71).

A poor reader can be characterized as a passive reader, often waiting for an outside source of help to proceed (Clay, 1985, 1991a, 1993b). According to the Report of the Commission on Reading (Anderson et al., 1985), poor readers lack an essential strategy used by skilled readers. They are unable to monitor their comprehension and implement fix-up strategies when comprehension fails. Unlike skilled readers, they do not have corrective actions they may take when failure occurs.

Using observations of good and poor readers, Clay designed the Reading Recovery Program to address those differences. According to Clay (1990):

> Explicit in our model of change was that we aimed to teach the poor readers to use the strategies observed in successful readers on the assumption that to be competent in literacy low achieving children would need to learn to do what good readers did. This has not been a common assumption in remedial programs (p. 8).

In order to develop efficient use of successful strategies, students must develop a self-extending, or self-improving, system which allows the reader to increase the inner control of strategies each time they read (Clay, 1991a). With a self-extending system firmly in place, the reader develops greater independence with each new encounter with novel text. This is the end goal of the Reading Recovery program.

Several studies have shown that 75% to 85% of students participating in the program are able to achieve reading and writing scores in the average range without continued intervention (National Diffusion Network, 1993; Pinnell, DeFord, & Lyons, 1988; Swartz, Shook, & Hoffman, 1993).

Askew & Frasier (1994) conducted a study in which they examined students at the end of their second grade year. Fifty-four discontinued Reading Recovery students were randomly selected from nine school districts in Texas. A second group of 53 students was randomly selected from all second grade classrooms in the same schools. Measures collected included dictation and spelling, text reading,

fluency and retelling. There were no significant differences found between the groups on these measures.

There are no available comparison studies, however, which follow the progress of discontinued Reading Recovery students at regular intervals during their second grade year. The purpose of this study was to contribute to the available literature on the effectiveness of the Reading Recovery program by comparing the literacy profiles of discontinued Reading Recovery students with their peers in the second grade.

The present study followed the progress of thirty-one second grade students who had participated in the Reading Recovery program for one school year during grade 1. A random sample of thirty-one students who represented the average band of literacy development in each second grade classroom served as a comparison. In this way, the researcher was able to compare the reading proficiency of each group throughout the school year.

Definition of Terms

For the purpose of this study, terms are operationally defined as follows:

Strategies: mental activities initiated by the child to get messages from a text (Clay, 1993a, p. 18). These mental activities are a conscious search to solve problems encountered during reading in order to accomplish the reading task.

Self-extending system: (also referred to by Clay as a self-improving system) a set of operations which is just adequate to allow the child to read slightly more difficult text. As the child develops a self-extending system, he/she is able to learn more about reading during each encounter with text, independent of instruction.

Scaffolding: through interaction in reading and writing activities, the teacher provides just enough support to help the child accomplish tasks that will lead to learning. In this way, the teacher allows the child to do everything possible independent of him/her. This increases the reader's level of independent use of strategies.

Self-monitoring: the reader's ability to attend to print while checking on reading to assure that all information sources provided in the text match. This is a highly skilled process which takes place over many years of practice. As new challenges are met in text, adaptations must continually be made.

Searching for cues: active attempts the reader makes to locate information in the text or illustrations which will assist during reading. This may include scanning the text or illustrations for meaning or visual information; attending to visual information by sounding out words or letters; repetition of text to predict, confirm, or gain additional information; or self-correction during reading.

Cross checking: the reader's ability to check one source of information against the other during reading. This

includes meaning (semantic), structural (syntactic), and visual (graphophonic) cues. Cross checking may be evidenced by repetition of text to confirm, predict, or self-correct; pausing or hesitation to acknowledge an error or mismatch in cue sources; verbalization of mismatched cue sources; or accurate reading.

Self-correction: the reader's ability to detect and correct errors made during oral reading, independent of the teacher.

Discontinuation: successful completion of the Reading Recovery program during grade 1. This success is determined by a set of assessment measures including oral reading, writing, and word recognition. The child must exhibit the use of independent reading and writing strategies as they interact with print.

Regular classroom: a second grade classroom where students receive their primary instruction in all academic areas. This does not include specialized instructional intervention programs such as special education or Chapter 1.

Average Band: students who fall within the average range in literacy development in each class represented in the study. This group was determined through stratified random sampling of all students in each designated classroom, excluding students who represented the highest or lowest literacy range. Students who had been previously served in the Reading Recovery program or were currently served in a special education program were excluded from the study. In

addition, teachers were asked to exclude the highest and lowest student in the class. The average band represented the middle range of literacy within each classroom setting.

Statement of the Hypotheses

This study tested the following hypotheses:

1. Students who discontinue from the Reading Recovery Program would perform at least as well as their peers on six end-of-the-year literacy measures including:

- the ability to write known sight vocabulary (writing vocabulary)
- the ability to analyze sounds in words (sound analysis)
- the ability to spell words in writing when presented in an oral sentence (spelling vocabulary)
- the ability to read words in isolation in a graded word list (word recognition)
- the ability to read increasingly difficult texts with an accuracy exceeding 90% (text reading level)
- the ability to detect and correct errors during oral reading of a text with an accuracy of 90% or greater (self-correction rate)

2. Students who discontinue from the Reading Recovery Program would perform at least as well as their peers on two literacy measures over time including:

- the ability to read grade level material with a high level of accuracy (text reading level)

- the ability to detect and correct errors during oral reading of grade level texts (self-correction rate)

3. Students who discontinue from the Reading Recovery Program would perform at least as well as their peers on the reading portion of the Iowa Test of Basic Skills (ITBS), a nationally administered standardized test.

Organization of the Study

This study is composed of five chapters. Chapter One introduces the study including a statement of the problem, significance of the study, a definition of terms, and statement of the hypotheses. Chapter Two reviews related literature. Chapter Three discusses the methodology used, including a description of the subjects, instructional setting, instrumentation, design and procedures, and analysis. Chapter Four presents the results of the study, and Chapter Five provides a discussion of the findings.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

The review of literature is presented in four sections. The first section presents a review of the literature on emergent literacy, including the role of both home and school in literacy development. The second section reviews early intervention programs designed for at-risk students. The Reading Recovery Program is described in this section. Both teacher training and research relating to Reading Recovery are included. The third section reviews reading as a constructive process, including the development of strategies and sources of information which are available in selecting and applying strategies during reading. Other factors related to literacy success are discussed. The fourth section summarizes the literature review.

Emergent Literacy

> Childhood literacy is an emergent process. Like the opening of a blossom when its petals are bathed in light, so meaningful experiences in the world of print around them spark the imagination and curiosity of the young, opening the doors of their minds to the world of literacy. Likewise, as the gardener carefully cares for and cultivates the bloom, in the classroom the knowledgeable and perceptive facilitator can capitalize

> on this naturally emerging process and promote its continued flourish (Williams & Davis, 1994, p. 37).

The Impact of Home on Literacy

The concept of emergent literacy (Clay, 1967, 1991b; Teale & Sulzby, 1986) has gained increased attention in the past two decades. Emergent literacy refers to the child's growing discoveries about print. Literacy learning begins long before formal schooling. It begins at birth and is a continuous developmental process or *act of becoming* (Teale & Sulzby, 1986).

Children learn as a result of informal experiences with print in the real world (Sulzby, 1986). These early experiences lay the foundation for formal literacy training. Literacy begins in the home where parents are the most influential teachers (Curry, 1992; France & Meeks, 1987). The parent's role as teacher occurs in spite of the fact that most parents do not consciously attempt to teach children to read (Clark, 1976).

According to Frank Smith (1992), we learn to read from the company we keep. From early in their lives, children are surrounded by adults. Through their first encounters with print, children attempt to model the literacy behaviors of their parents and others (Barron, 1990; Hall, 1987; Harste, Woodward, & Burke, 1984; McGee & Richgels, 1990; Taylor, 1983).

The home influence of parents as well as other influential children has an impact on early literacy learning (Durkin, 1966). Children acquire literacy concepts by having the opportunity to observe the adults in their lives using literacy for both work and pleasure (Hiebert, 1980). This aids them in understanding both the functions of reading and writing as well as the enjoyment each brings (Taylor, 1983).

For most children, literacy learning is a naturally occurring process (Teale & Sulzby, 1986; Williams & Davis, 1994). Early experiences and interaction with print develop literacy awareness resulting from the child's struggle to make sense of the world (Hall, 1987; Teale, 1986, 1987). Print is seen as a means for expressing meaning (Kantrowitz & Wingert, 1989; Mason, Peterman, & Kerr, 1988) as children find their own way to make sense of how reading works (Fields, Spangler, & Lee, 1991). According to Teale (1986),

> Literacy develops out of real life settings in which reading and writing are used to 'get things done.' Therefore, the functions of literacy are as much a part of learning to read and write as are the formal aspect of written language (p. 9).

Children learn written language in the same way they learn oral language because it is language (K. S. Goodman, 1986, p. 1). Just as children are innately predisposed to learning language, reading and writing become natural extensions of this language acquisition (Chomsky, 1965). In this way, children are working on both oral and written language at the same time (Fields et al., 1991).

The development of listening comprehension through oral language becomes a critical factor in reading as it transfers to reading comprehension (Pearson & Fielding, 1982). The authors refer to this transfer as cross-modal transfer of learning. This transfer can be heightened by such activities as listening to stories as a source for growth in reading comprehension (Wells, 1986).

Prior to formal instruction, children begin to develop concepts about print (Clay, 1985, 1993a; Morris, 1981). This learning occurs as a result of informal interactions with print such as storybook reading and awareness of environmental print. Children beginning to attend to print at young ages have learned much about the form and function of printed language (Y. M. Goodman & Altwerger, 1981; Harste et al., 1984). It is these early print understandings which help children profit from reading and writing instruction.

Children who lack early concepts such as concept of word are likely to have difficulties in learning to read (Ehri & Sweet, 1991; Morris, 1981; Reutzel, Oda, & Moore, 1989). The level of understanding children have about literacy is a critical factor in school achievement (Wells, 1986). According to Wells, "The single most important factor in accounting for the differences between children in their subsequent achievement was how much they understood about literacy on entry to school" (p. 165).

By the time the child enters school, they know much about oral and written language (Y. M. Goodman, 1986; Hall,

1987). This previous learning should be considered in planning beginning instruction as this builds upon early learning and literacy understanding (Hiebert, 1988) and "serves as a bridge between home experiences and the more demanding work of first grade" (Mason, 1986, p. 59). According to Taylor (1983),

> Perhaps it is only after children have shared stories and experienced reading and writing as complex cultural activities that they will be able to learn on an individual level through the traditional pedagogical practices of the first grade classroom (p. 98).

The mere presence of books, however, will not ensure that children will use them (Ollila & Mayfield, 1992). The role of parents is to encourage early literacy development by providing a print rich environment in which children have opportunities to interact with print (Robinson & Dixon, 1991). Through interactions with print and the parent's role as a literacy model, children increase their understanding of the process of literacy.

There has been limited effort, however, to link home literacy to school literacy. While the role parents play in supporting the early literacy learning of children is clear (Fields et al., 1991; Hiebert, 1980; Hughes, 1993), educational institutions have done little to support them in that role (Kagan, 1990). For many parents, the issue may not be a desire to support the child, but a limited understanding of this role. The responsibility is then upon the school to provide support for parents in supporting their child's literacy learning.

The Impact of School on Literacy

Children enter school with different levels of preparedness which form their *personal literacy histories* (McGill-Franzen, 1992). Children with limited preparedness lack a supportive framework for the instruction they receive in the school setting (Mason, 1984; Teale & Sulzby, 1986; Wells, 1986). To further highlight these differences, children do not follow the same developmental sequence in learning to read and write (Sulzby, 1982). For some educators, the question becomes whether formal literacy training should be withheld until the child is *ready*.

Vygotsky (1978) says that children grow into intellectual life about them and that their development is stemmed by learning. In the past, the burden for preparedness has been upon children. According to Kagan (1990), this emphasis has changed. "Concern should not focus on whether children are ready for schools but on whether schools are ready for children" (p. 278).

In Clay's early work studying five year old New Zealand children (1967), she states, "There is nothing in this research that suggests that contact with printed language forms should be withheld from any five year old on the grounds that he is immature" (p. 24).

The emergent literacy perspective embraces the view that beginning reading instruction should build on what children bring to the school setting. This also applies to students

who enter school with limited knowledge. In studying the knowledge of at-risk readers, Yetta Goodman (1986) found that they possessed a great deal of knowledge about the function and use of printed language. The need for continued experiences in school becomes critical to future success. These experiences should include continued and frequent exposure to printed language.

According to Clay (1985), good teaching must be the first priority. There is nothing which can compensate for poor teaching and classrooms which fail to provide a print rich environment. With improved classroom instruction, teachers can better accommodate the differences in the literacy development of children (Hiebert & Taylor, 1994).

Numerous studies have examined the effect teachers have upon learning. These studies have shown that the beliefs teachers have regarding literacy learning has an impact upon the literacy development of children (Board, 1981; DeFord, 1981; Harste et al., 1984; Leinhardt, Zigmond, & Cooley, 1981; McGill-Franzen & Allington, 1991; Mills & Clyde, 1991; Sulzby, 1982). This impact can be a powerful influence upon the child's developing concepts about what reading is all about (Pinnell et al. 1988). At-risk children may be particularly vulnerable to school experiences. Researchers have found that poorer readers tend to take the teacher far too seriously, suffering from what Board (1981) calls "an instructionally dependent attitude".

According to McGill-Franzen (1992), "when children perform poorly, it is attributed to their delayed development or disability rather than to the paucity of experiences and opportunities to explore written language and literacy understandings" (p. 57).

In a study by Harste et al., (1984), researchers found that children who participated in explicit phonics instruction for only twenty days, abandoned all other reading strategies they had previously used with the exception of sounding out. The authors state that if knowledge valued by the learner is not confirmed, then that knowledge atrophies.

These findings have important implications for classroom instruction as discussed by Harste (1989):

> The issue, then, is not whether instruction is effective, but - if anything - whether or not it is *too* effective...The real issue is not teacher competency, but whether we are teaching children what we ought to be teaching in the name of literacy. This is quite a different, but more pertinent issue (p. 14).

Kenneth Goodman (1986) suggests that the whole language model is the answer to this problem. A model which emphasizes learning through authentic reading and writing experiences would make the curriculum consistent with the way in which children appear to learn naturally (Teale & Sulzby, 1986). Early programs should provide opportunities to learn about literacy through active participation in reading and writing experiences (Cambourne, 1988; Hiebert & Taylor, 1994). By acknowledging the reciprocal nature of reading and writing in instructional practices, children learn to read like a writer (Smith, 1983).

Through authentic experiences, children begin to approximate the real tasks of literacy (Cambourne, 1988). This approximation and active involvement in literacy tasks makes children active participants rather than recipients of learning. In order to become fully literate, one must be able to "engage appropriately with texts of different types in order to empower action, feeling, and thinking in the context of purposeful social activity" (Wells, 1990, p. 14).

Early Intervention

Increased concern over literacy instruction in the United States has resulted in an emphasis in early intervention for children at risk of failure. Research shows that children who are behind their peers in the early grades continue to fall behind in later grades (Carter, 1984; Cooley, 1981; Hughes, 1993; Juel, 1988). Differences found between poor readers served in traditional programs have remained constant at each grade level (Applebee, Langer, & Mullis, 1988).

Remediation of learning problems beyond the third grade is largely ineffective (Kennedy, Birman, & Demaline, 1986). Pikulski (1994) was able to locate little evidence that suggested intervention beyond grade 2 was successful (p. 30). The long-term results of early failure are severe. A longitudinal study found that third graders who are reading below grade level and have failed one or more grades are unlikely to complete high school (Lloyd, 1978).

When intervention is delayed, the cycle of failure may be locked into place. Stanovich (1986) describes this as the Matthew Effect. "A Matthew effect is being created whereby a child who is - for whatever reason - poorly equipped to acquire reading skill may evoke an instructional environment that will further inhibit learning to read" (p. 396).

One attempt to address children at risk of failure has been retention. Over 2,400,000 students are retained annually in the United States, at a national cost of almost ten billion dollars (Sheppard & Smith, 1990). Current research, however, has provided evidence that retention has little or no positive effect (Johnston, Markle, & Nims, 1985; Peterson, DeGracie, & Ayabe, 1987; Walker & Madhere, 1987), resulting in a recent scrutiny over this questionable practice.

Special education programs as a response to this literacy problem have also shown questionable results. The amount of reading instruction in special education rarely exceeds that which would have been received in the regular classroom. In addition, there is a higher incidence reported in the use of seatwork and less active teaching than Chapter 1 or regular classes (Allington & McGill-Franzen, 1990).

Traditional Chapter 1 and Title I pull-out programs have resulted in modest long-term effects (Carter, 1984; Johnston, Allington, & Afflerbach, 1985; Savage, 1987). Pull-out programs show effects of 1% to 3% at best, largely limited to primary grades (Carter, 1984).

Special education and Chapter 1 programs have been viewed as remedial rather than an effort to accelerate learning (Allington, 1991). The loss of exposure to language and opportunities which are available in the regular classroom further complicate opportunities for accelerated progress (Y. M. Goodman, 1986).

The instructional emphasis provided in these programs is commonly on low-level, isolated skill-and-drill activities rather than connected text (Hiebert & Taylor, 1994), referred to as the "slow-it-down-and-make-it-concrete approach" (Allington, 1991; McGill-Franzen & Allington, 1991).

Differential treatment provided students at risk has been found to extend into the regular classroom (Allington, 1980, 1983; Felmlee & Eder, 1983; Gumperz, 1986; Hiebert, 1983; Hoffman & Clements, 1984). Low ability readers are corrected more frequently (Allington, 1980, 1983) and taught to rely more on sounding out and less on meaning (Gumperz, 1986), contributing to their passive status as readers.

According to Clay (1988), low achievers show one or more of the following outcome deficits:

> They avoid reading and do less of it; they act passively in print situations, they cease to use cognitive strategies on text problems; they avoid phonological discriminations if these do not work and try to depend on some other mode of word solving (p. 3).

Clay suggests that children may be classified as learning disabled through environmentally produced elements (Clay, 1987). Lyons (1987, 1989, 1991) has conducted extensive research which supports this, suggesting that

children previously labeled as learning disabled may instead be *instructionally disabled*.

High quality instruction is needed to accelerate the reading development of students reading below grade level (Allington & McGill-Franzen, 1989). Madden & Slavin (1987) call for more effective ways to help students at-risk. Slavin (1987) suggests this effort must begin with funding, likening failure to do so to withholding medical treatment from children who have a curable disease. Financial commitment would provide resources to assure that *all* children learn for "when they fail, it is the system that has failed them" (Slavin, 1987, p. 118). To date, however, we have not shown this resolve to bring at-risk students into the educational mainstream (Levin, 1989).

According to Sevano (1994), what we save in effective early intervention today will prevent us from spending again and again tomorrow. Many researchers argue that if children are put on the right path initially, current investments in remediation will not be necessary (Hiebert & Taylor, 1994; Lyons, 1991; Pinnell, 1989; Pinnell et al., 1988).

Reading Recovery

Reading Recovery is a one-to-one early intervention and acceleration program developed from a research base by Marie Clay. Clay, a New Zealand educator and cognitive psychologist, considers Reading Recovery to be a *little Berlin Wall*, pointing to what is possible with children at

risk of failure (Clay, 1990). The Reading Recovery Program was based on observations of the literacy behaviors of children (Clay, 1967, 1982).

Reading Recovery was piloted in six public schools in Columbus, Ohio from January to May 1985 (Pinnell et al., 1988). During the 1993-94 school year, 8,344 classroom teachers in 5,657 schools including 1,890 district level sites participated in the Reading Recovery Program. In addition, 400 teacher leaders and 33 university faculty members in 19 states were involved in training at 23 university training sites. At this time, Reading Recovery operates in four Canadian Provinces, forty-three U.S. states, and the District of Columbia, with an estimated 60,000 North American children served by Reading Recovery educators in the 1993-94 school year (The Executive Summary, 1993).

Reading Recovery is designed to identify the lowest achieving students in grade 1. When confusions and deficits place them so far behind their peers, there is little hope they may be able to catch up. Reading Recovery is considered to be a second chance at academic success. It is designed for children whose reading and writing difficulty is so great that intensive support is necessary for success.

Reading Recovery is not designed to take the place of the regular classroom program. In New Zealand, it is referred to as *something extra* (New Zealand Department of Education, 1987). Using authentic reading and writing

activities, children are supported in developing strategies used by successful readers as they read and write.

Reading Recovery is designated for the bottom 20% of children in the first grade based on the following criteria:

1. At the beginning of first grade, the teachers alternately rank their students from highest to lowest. The bottom 20% are identified.

2. Children who fall below suggested stanine on the kindergarten readiness test are identified.

3. Children who fall in the above categories are given Clay's Diagnostic Survey (1985, 1993a).

The Diagnostic Survey is an assessment measure which provides insight into the child's current level of literacy development. It consists of six measures which provide a first look at the child. These measures examine letter knowledge (Letter Identification Test); the ability to read words in isolation (Word Test); early literacy concepts (Concepts About Print Test); the ability to write known words (Writing Test); the ability to analyze the sounds in words (Dictation Test); and the ability to read connected text (Text Reading).

Once students are determined to be in the lowest literacy range in grade 1, they are selected for placement in the program. Initial placement begins with a ten day observation period referred to as *Roaming in the Known* (Clay, 1985, 1993b). During this time, the teacher builds a framework for the lessons which follow. This is done by

confirming and supporting existing knowledge the child brings to the reading and writing task.

Students selected for Reading Recovery are removed from the regular classroom setting for thirty minutes daily to work individually with a trained Reading Recovery teacher. Although Reading Recovery is designed as a pull-out program, the focus is on accelerating the child's literacy progress quickly so that he/she may be returned to the regular classroom. This one-to-one, short-term nature of Reading Recovery as well as the focus on accelerated learning distinguishes it from traditional pull-out programs.

The procedures for the Reading Recovery lesson are not a lesson plan which must be strictly adhered to, but a menu of possibilities (Clay, 1985). Activities provide opportunities for the child to read extended text, talk about reading and writing as they explore print, and use the full range of their information sources while actively involved in holistic reading and writing activities. Components of the Reading Recovery lesson include:

- Rereading familiar stories
- Running record using a new book from previous day
- Letter and word identification (optional)
- Writing a story
- Cut-up sentence
- Reading a new book

Rereading allows the child to engage in fast, fluent reading. The teacher supports the child in the use of

strategies *on the run* while focusing on meaning (DeFord, 1991). This makes books more accessible for the effective use of strategies, yet difficult enough to present new challenges and opportunities for independence.

Following rereading, the teacher assumes the role of a neutral observer by taking a running record (Clay, 1985, 1991, 1993a). The running record is a shorthand miscue recording technique which is similar to a miscue analysis (Goodman, Watson, & Burke, 1987). This serves as a permanent record of the child's behaviors during oral reading. By analyzing the records for types of miscues and attempts to resolve problems during reading, the teacher is able to make inferences about the child's use of strategies.

When the book reading is completed, the teacher selects the most powerful examples which illustrate good strategies the child has used during the reading. In addition, the most productive teaching points are addressed, reinforcing what the child knows in order to initiate future problem-solving behaviors on subsequent texts.

Children who are just beginning to learn about letters may spend one to two minutes increasing their knowledge. Through the use of plastic letters on a magnetic board, children may use known letters and words to extend learning. This portion may be discontinued when appropriate.

The writing portion of the lesson is a collaboration between the teacher and child. The child constructs his own message, writing only what he has demonstrated control over.

The child is able to examine the details of written language using his own oral language and sense of meaning.

Sound boxes, based on a phonemic segmentation technique by Elkonin (1973), are used for exploration of letter-sound relationships. As the teacher provides opportunities to analyze words and make links between sounds and letters, new learning occurs. Reading and writing are interconnected as children learn to write by writing and read by reading (Pinnell, 1989; Pinnell et al., 1988).

Using the child's writing, the teacher writes the sentence on a sentence strip. Making on-the-spot decisions to cut the sentence at strategic points, the teacher is able to reinforce sounds, letters, words, or phrases. The child reassembles and rereads the sentence, which is then taken home for additional practice. This allows the child to search, check on his own reading and writing work, and notice visual details of print.

The final stage of the lesson is reading a new book. The student is asked to read a novel text selected deliberately by the teacher to support the child's current literacy level. Through a story introduction (Clay, 1991b), the teacher provides a frame of meaning with which to guide the child through the first reading. This includes an informal conversation about the text and illustrations as the teacher draws attention to the features of the text.

Following the introduction, the child reads the text independently. Help is provided by the teacher only as

needed. The child is then guided in independent problem-solving while simultaneously using a wide range of skills in a purposeful, integrated way. The role of the teacher is to guide the child in a broader range of strategy use while reinforcing evidence of effective strategy use. The following day, this book is used to complete the running record.

During the Reading Recovery lesson, the teacher and child work side-by-side. This forms a collaborative reading and writing effort. Vygotsky (1978) believed that cognitive development begins as a social process, usually between adults and children. Learning gradually becomes internalized as the teacher begins with what the child currently knows, adding successively to these strengths throughout the program.

There is not one prescribed set of readers to be used in the Reading Recovery Program. The texts include real stories with language which closely matches the child's language rather than contrived vocabulary. According to Clay (1982), children develop reading strategies when they interact with books which reflect their own language.

Books are selected for each child on a gradient level of difficulty throughout the lessons. These levels (1-30) are based on text characteristics rather than grade level and are intended to be used as a guide only. Such text characteristics include vocabulary, the match between the illustrations and text, and the predictability of language

patterns and story episodes (Peterson, 1991). The teacher selects books which can be used to support the child's level of literacy expertise at that time in the child's individual program.

The presentation of texts at an increasing level of difficulty allows the teacher to provide increasingly difficult texts. By providing books children can read with 90% to 94% accuracy, the level of challenge is optimum for growth. With too little challenge, students will not achieve maximum growth; with too much they may become frustrated (Anderson & Armbruster, 1990).

This optimum level must also be determined within the regular classroom. A New Zealand study (Glynn, Crooks, Bethune, Ballard & Smith, 1989) described a *wash out effect* of Reading Recovery in which the net gain following one year after discontinuation appeared to be modest (p. 83-84). The researchers considered this effect to be the result of a discrepancy between the tested book level and the reading book level in the regular classroom following discontinuation.

The teacher must become a sensitive observer of the child's level of expertise. Cautious selection of texts is based on observations of behaviors and evidence of progress or confusion. Children are constantly immersed in authentic reading and writing activities using connected texts which support their emergent literacy (Peterson, 1988, 1991).

Teacher Training

An intensive teacher inservice training program integrates theory and practice as the teacher simultaneously alternates between instruction and practice. Teachers learn while teaching up to four Reading Recovery students daily. In this way, they are able to apply learning to their teaching.

A key component of the teacher training is teaching *Behind-the-Glass* at least three times during the training year. Teachers become sensitive observers of reading and writing behaviors through this procedure. Training then begins with and is guided by observations of students in the process of reading and writing. Through observations, the teacher learns to adjust instruction in a flexible manner to the learning processes of students (Pinnell, 1987).

Guided by a teacher leader, observers simultaneously talk and observe, listening to the comments of others. They are encouraged to question previous assumptions about literacy acts, constantly re-evaluating, modifying, analyzing, or affirming their teaching. According to Pinnell (1989), "Teachers must examine their own assumptions and develop a theoretical base upon which they can make effective moment-to-moment decisions while teaching" (p. 170). In this way, the teacher learns continually while analyzing teaching decisions.

Ongoing teacher training which allows teachers to link theory to practice is a critical component of the Reading Recovery Program. Teachers need to understand not only *how* a program works, but *why* (Chall, 1983). If the underlying beliefs which support old practices continue to exist, change cannot take place as the teacher may carry old practices with him/her (Sarason, 1990). Extensive teacher training and support allows teachers to change their theoretical base as they make changes in practice, the basis of true change.

The training is intended to increase the understanding teachers have of their students, an understanding which serves to maximize their effectiveness (Clay, 1991a). There is evidence that this effectiveness increases after the first year of implementation of the program, reflected by higher student accomplishments after the training year (Hiebert, 1994).

The training program is essential to the success of the instructional program (Pinnell et al., 1988). Jongsma (1990) states, "Without an effective training structure, most of the achievements of the program will not occur and it is the hardest to teach children who will lose out again" (p. 273).

Research on Reading Recovery

New Zealand studies (Clay, 1982, 1990, 1993b) indicate that children make accelerated progress and continue to make progress following discontinuation. Clay cites government figures which indicate that fewer than 1% of the total age

cohort need further referral or intervention, supported across five years by National figures (Clay & Tuck, 1991).

Since 1985, Columbus and the State of Ohio studies have been conducted to determine the effectiveness of the program. These studies provide evidence of sustained growth (DeFord et al., 1991; DeFord, Pinnell, Lyons, & Place, 1990; Lyons et al., 1993; Pinnell, 1989; Pinnell et al., 1988; Smith-Burke, Jaggar, & Ashdown, 1993). Several studies have shown that 75% to 85% of students participating in the program are able to achieve reading and writing scores in the average range without continued intervention (The Executive Summary, 1993; National Diffusion Network, 1993; Pinnell et al., 1988; Swartz et al., 1993).

In a recent study comparing other instructional models for at-risk (Pinnell, Lyons, DeFord, Bryk, & Seltzer, 1994), Reading Recovery was found to show the most promising results. The comparison models included modified Reading Recovery designed for a small group (Reading/Writing Group), two other one-to-one instructional models, as well as a control group for comparison purposes.

Although concerns have been expressed by several researchers about Clay's research methodology (Nicholson, 1989; Robinson, 1989; Shanahan, 1987) these concerns have been addressed in recent research studies.

Other research has expressed concern about a lack of metalinguistic skills in discontinued Reading Recovery students (Center, Wheldall, Freeman, Outhred, McNaught, 1995;

Chapman & Tunmer, 1991; Iversen & Tunmer, 1993). Metalinguistic skills, or the ability to reflect on and manipulate the structural features of spoken language, include phonological awareness, phonological recoding, and syntactic awareness (Tunmer, 1990).

It appears that children with poor metalinguistic skills on entry to the program were less likely to discontinue (Center et al., 1995). Although sound boxes address phonological recoding, these researchers contend that it may not transfer to reading. They suggest adding activities to the lesson framework which will specifically address metalinguistic awareness.

In Clay's most recent book describing Reading Recovery (1993b), she has addressed these concerns by adding *making and breaking* to the program (p. 44). Based on a procedure by Bradley & Bryant (1985), children manipulate magnetic letters to form new words using common ending phonemes (e.g., *cat, bat, sat*).

Reading as a Constructive Process

Reading is an active process in which the reader constructs meaning from a written text while integrating a range of interrelated sources (Anderson et al., 1985). While relating previous experiences to those ideas presented in the text, the reader assigns meaning (Anderson & Pearson, 1984) as an integration of these two sources of information occurs. This integration results in an improved schema (Tierney &

Pearson, 1986). Thus, it is not the text alone, but the reader's past experiences which result in meaning.

Comprehension occurs as the reader relates new information to past experiences. The reader is then said to have found a *mental home* for the information contained in the text (Anderson & Pearson, 1984, p. 255). Existing *mental homes* may need to be modified when the text does not fit, thus accommodating for new information.

Frank Smith (1988) refers to this complex process as a reciprocal relationship between visual and non visual information. Visual information is that which is available through the eyes to the brain such as the inkmarks on the written page. Non visual information occurs behind the eyes, or that which reduces uncertainty in advance, including prior knowledge, knowledge of subject matter, and experiences the reader brings to the task.

According to Smith (1985), reading involves a balance between visual and non visual information. When the reader exhibits excessive reliance on visual information, this reliance may overwhelm the brain and result in *tunnel vision*. This tunnel vision in turn results in what Smith calls *reading nonsense*.

The Development of Strategies

According to Clay, in order to understand the child's developing literacy, we must understand the strategies they use or fail to use (1993a). Clay defines operations or

strategies as "a mental activity initiated by the child to get messages from text" (Clay, 1993a, p. 18). Children who gain strategic control over the reading process develop an array of effective strategies which allow them to know what actions to take to solve new problem text, and the ability to act upon that knowledge.

Current reading theory suggests that the development of strategies increases the reader's awareness of selecting and applying efficient strategies. This results in an increase in comprehension (Palincsar & Brown, 1985; Paris, Lipson, & Wixson, 1983). Strategic behavior improves learning, can be taught, and can be learned (Paris, 1985).

The emphasis on strategy teaching and learning must be on guiding and facilitating the learning of strategies (Goodman & Burke, 1980). This learning must occur in a supportive literacy environment as the teacher reinforces what the child knows in the process of teaching them new strategies (Baker & Brown, 1984; Deschler & Schumaker, 1986). The strengths each child brings to the task is critical. By focusing on these strengths, the teacher adopts the belief that *each* child can learn to be a good reader and writer (Clay, 1985; Pinnell, Fried & Estice, 1990; Tancock; 1994).

Sources of information

According to Clay & Cazden (1992), readers use four sources of information, or cues, during reading. This includes *semantic* or text meaning; *syntactic* or sentence

structure; *visual* or graphemes, orthography, format, and layout; and *phonological* or sounds of oral language (p. 115). These cue sources are used to initiate deliberate efforts to solve new problems using procedures and information previously learned.

All readers must monitor and integrate information from multiple sources, called cross checking (Clay, 1979, 1985, 1993b; Clay & Cazden, 1992). It is the balance and flexible use of cue sources which allow for good reading behavior. The reader must integrate cue sources in a purposeful way (Fitzgerald-Hastings, 1991; Kelly, Klein & Neal, 1993). This results in an orchestration of strategies and more effective reading. When strategy use is inflexible, as observed when the reader attends to only one cue source (e.g., visual) to the exclusion of another (e.g., meaning), this creates frustration for the reader (DeFord, 1991).

In a 1987 study, Lyons stated that the instruction a child receives may influence reliance on the details of print. Children classified as learning disabled tend to rely on visual information, ignoring meaning and supportive language. This reliance results in an unbalanced cueing system. Supporting this, Goodman (1973) states, "Remedial reading classes are filled with youngsters in late elementary and secondary school who can sound out words but get little meaning from their reading" (p. 491).

As the reader increases control of the reading process, he/she gains what Clay (1991a) calls *inner control*. Evidence

of inner control extends the child's potential for engaging in increasingly difficult tasks. The reader assumes responsibility for learning to read by reading.

Clay refers to this as a self-extending or self-improving system (Clay, 1985, 1993a, 1993b). According to Clay (1991a), "the act of reading expands the range and effectiveness of strategies which the reader can bring to the task, and the size of the practiced response repertoire upon which he can draw" (p. 317). Stanovich (1986) refers to this as bootstrapping.

The teacher finds opportunities to reinforce the use of strategies, focusing on strengths and competencies the child brings to the reading process. Children are encouraged to use what they know to get to what they do not, with assistance offered by the teacher only as needed. In this way, the teacher fosters independence by doing for the child only what he/she can not do alone.

Scaffolding (Clay 1985, 1991a) refers to the level of support offered by the teacher. Scaffolding forms the basis of what Vygotsky (1978) calls the *zone of proximal development*. Through problem-solving under adult guidance, or with collaboration with peers, the child begins to reach the level of potential development. As children work in this zone, they gradually reach new levels of development.

The teacher must become a sensitive observer who is able to provide just the right amount of support so that the child is challenged without feeling a sense of frustration.

Scaffolding allows children to perform what they could not otherwise do. This facilitation "transforms the child's development so that tomorrow, the child is able to independently do what he/she could do only with assistance today" (McGill-Franzen, 1992, p. 58).

In this way, the child has opportunities to explore and experiment with print, learning from his/her own attempts during reading and writing. These approximations form the basis of literacy learning (Wells, 1990). Mistakes are essential to learning as the approximations get closer and closer (Cambourne, 1988). The support, or scaffolding, is gradually withdrawn as the child becomes increasingly independent.

Approximations are the child's efforts to problem-solve novel texts and balance the strategies and cue sources available. The teacher can encourage a search for meaning in the process of experimentation. As the teacher guides the child in cross checking multiple cue sources, children are able to notice new things about print while linking them to existing knowledge (Clay, 1991a). The teacher has the ability to "foster such responses or limit the opportunity to do so" (Clay, 1991a, p. 319). The teacher may communicate a narrow range of strategies, producing a negative effect for the child at-risk as they begin to rely on one source of information or cue to the exclusion of the other (Pinnell, 1985).

Evidence of the use of strategies by Reading Recovery students has been observed and recorded through the use of running records (Clay, 1985, 1993a; DeFord, 1991; Frasier, 1991; Pinnell et al., 1988; Pinnell et al., 1990). The Report of the Commission on Reading (Anderson et al., 1985) refers to the analysis of oral reading as a window on what's going on inside the child's head as they read. As the teacher makes hypotheses based on observed behaviors, a great deal of information about the strategies used by a reader may be provided.

Although we cannot identify or describe these in-the-head processes as children read, careful observation of reading behaviors gives us an idea what strategies the child may be using. We can observe that the child has gained control over the early strategy of directional movement, for example, by watching eye movement, finger pointing, and accurate reading. If the child searches the page with his/her eyes, this suggests he/she is searching for cues. A child who returns to previous text to reread, perhaps self-correcting an error, may be cross checking two cue sources, illustrating an awareness that what was read does not match the print as the child checks on the reading.

Another method for hypothesizing the use of strategies is by encouraging the child to verbalize strategies during reading. Verbalization encourages self-monitoring, searching, and self-correction behaviors. Teaching children to verbalize these processes will encourage them to examine

their reading behavior (Clay, 1985). Hellekson & Feitler (1994) found positive effects related to verbalization of strategies.

When the child has demonstrated independence in the selection and use of strategies and it is apparent that a self-extending system exists, the child is *discontinued* from the Reading Recovery program and placed in the regular class. Discontinuation is defined as those students who receive less than 60 lessons (unless it is determined that more lessons are appropriate) and reach the average range of their classroom without the need for further intervention. The average percent of discontinuation ranges from 83% to 87% nationally (Lyons et al., 1993).

When children are determined to be ready for discontinuation, they have become independent learners within the average band of the classroom to which they belong. They are then able to survive in that classroom "with a not-noticing teacher", described as a risky scenario by Clay (1990, p. 6). In order to transfer out of the program, or discontinue, students must be independent of the teacher as they operate on text, detecting and solving their own literacy problems.

> There is no fixed set of strategies nor any required levels of text nor any test score that must be attained to warrant discontinuing. It is essential that the child has a system of strategies which work in such a way that the child learns from his own attempts to read (Clay, 1985, p. 82).

If a student receives 60 lessons without achieving this independence, they are *not discontinued* or dismissed from the

program. Referral for further diagnostic assessment may then be recommended to determine instructional need. Such children are referred to as *Third Wave* children in New Zealand.

One distinction between Reading Recovery in New Zealand and the United States relates to the amount of support offered to children who do not discontinue. In New Zealand, Clay (1990) believes that children who do not discontinue by the end of grade 1 may be offered additional support during grade 2. This is determined by their ability to make continued progress during the course of the Reading Recovery lessons. "The calendar should not determine the resources offered to the children; that should be determined by their learning needs. A treatment for an individual should not end because we ran out of a school year" (p. 23).

A refresher course, referred to as refresher tuition, is offered to discontinued Reading Recovery students who fall behind. This has not been a common practice in the United States, where children who do not successfully discontinue by the end of grade 1 are more frequently referred for other remedial programs. This is often due to the unwillingness of districts to provide necessary financial support for continuing services.

Other Factors in Literacy Success

Although the results of Reading Recovery are promising as an answer to the literacy problem, it cannot be the only

answer. There is no single answer to the problems presented in education. Other factors such as the home environment must be considered (Holland, 1987).

Children may remain in at-risk categories due to economic circumstances as initial problems continue to exist. "Children may learn to read through Reading Recovery, but they do not turn into different children, even though many may adopt a much more positive attitude toward school" (Pinnell, 1990, p. 293-294).

The influence of the regular classroom teacher on emerging literacy should also be a critical concern. There is a need for congruence between the Reading Recovery Program and the classroom (Handerhan, 1990; Strong, 1988). According to Slavin, Karweit, & Wasik (1991), "Intensive early intervention must be followed by extensive changes in basic classroom instruction practices if all students are to succeed throughout their elementary years (p. 9).

Early literacy programs such as Reading Recovery cannot be the only good teaching experiences children encounter. They need rich literacy experiences and an observing teacher to assist them in the regular classroom to support their continued efforts. The classroom and Reading Recovery teachers then become partners in schools as they work collaboratively in the child's literacy interests (Pinnell, 1991).

As a system-based intervention, changes must occur not only in the child's behavior, but in teachers and

administrators as well. According to Robinson (1989), children are vulnerable to the contingencies, expectations and opportunities provided by the classroom teacher (p. 42). Chall, Jacobs & Baldwin (1990) concur that changes must take place in the classroom. Only in this way can *all* children have equal opportunity to become successful lifelong learners.

Like many other children who have participated in the Reading Recovery Program, Jason is now a member of an exclusive literacy club. This membership is available to him as a result of the combination of this promising early intervention program and rich literacy experiences in the school and home environment. The doors of literacy have indeed opened wide as Jason takes his place among the world of readers.

Summary

Current research has provided evidence to support the critical role that parents play in emergent literacy development. This role is shared by the school, forming a partnership between home and school. According to the emergent literacy perspective, this begins at birth and is a continuous process. For some children, critical early experiences have been withheld and literacy has not proceeded successfully, requiring schools to intervene early. This research addressed the efforts of the Reading Recovery

Program in providing opportunities for children at risk of failure to become successful readers and writers.

The first section reviewed the impact of home and school on emergent literacy development. It is evident that each plays a role in the level of success students will have in the early grades.

The second section reviewed early intervention programs in addressing the needs of learners who fail to reach a level of success after one year of formal instruction. Reading Recovery was examined as an acceleration program designed to provide students with the ability to develop a self-extending system.

The third section examined the current literature on reading as a constructive process. The development of strategies and the use of sources of information in reading a text is examined. The role the teacher plays in building success for children experiencing difficulty in literacy is emphasized. The final section presents a summary of the review of the literature.

CHAPTER III

METHODOLOGY

This study was designed to compare the reading proficiency of discontinued Reading Recovery subjects (Reading Recovery group) with their average peers (Control group) on several literacy measures. This comparison provided insight in order to determine whether students in the Reading Recovery group (RR) had achieved a performance level which was comparable to the Control group (CTL).

Subjects

Sixty-two second grade students from two districts in the midwestern United States (District A and District B) were selected for this study. Thirty-one subjects were selected for the RR group, with thirty-one subjects representing the CTL group. The selection of all subjects was made September 1993 with the cooperation of Reading Recovery Teacher Leaders in each district. All subjects were matched on the basis of age, grade, and instructional setting. Subjects were attending a second grade classroom at the time of the study with a mean age was 7-5 for the RR group and 7-9 for the CTL group. A description of subjects in both groups is provided in Table 3.1.

TABLE 3.1
Subjects

	RR	CTL
population	discontinued RR	average band
number	31	31
District A	20	20
District B	11	11
grade	second	second
mean age	7-5 years	7-9 years
female	58%	61%
male	42%	39%
Caucasian	65%	81%
African American	32%	6%
Hispanic	3%	13%

The RR group consisted of thirty-one second grade students in two school districts. All students had participated in the Reading Recovery Program in their home school during the 1992-93 school year and were successfully discontinued prior to May 1993. Participation in this program is based on identification as having the lowest literacy profile at the beginning of grade 1 based on the following criteria:

- Teachers are asked to alternately rank order students in their class according to the highest students and lowest students and so on until all students are represented.
- Based on teacher ranking, the bottom 20% are administered Clay's Diagnostic Survey (1985, 1993a). The lowest scoring students are selected for inclusion in the Reading Recovery program.

Students in the RR group successfully completed the Reading Recovery Program in the first grade, demonstrating that they had increased in literacy ability to such an extent that they would be able to function successfully within the average range in their first grade classroom.

At the time of the study, students were attending a regular self-contained second grade classroom. Eighty-one percent of these students received no instructional support beyond the regular classroom. The remaining 19% received Chapter 1 services which did not exceed thirty minutes per day in any case.

The RR group consisted of eighteen females (58%) and 13 males (42%), including twenty Caucasians (65%), ten African Americans (32%), and one Hispanic student (3%).

The CTL group included thirty-one second grade students selected from the same classrooms in which subjects from the RR group were placed. Each selection was made through stratified random sampling. Members of the CTL group did not receive instructional intervention in the first grade and were not identified as the bottom 20%, although they had equal opportunity for selection.

At the time of the study, each student was placed in a regular self-contained second grade classroom. Like the RR group, a small percentage of students received support services outside of the regular classroom (26%) but this did not exceed thirty minutes per day in a Chapter 1 program in

any case. Seventy-four percent were served exclusively in the regular second grade classroom.

The CTL group was selected to represent the average band of second grade students. For the purpose of this research, average band is defined as those students who fall within the average instructional range in literacy development in each designated classroom.

Included in this group were nineteen females (61%) and twelve males (39%), with twenty-five Caucasians (81%), two African Americans (6%), and four Hispanics (13%).

Instructional Setting

Forty second grade subjects were selected from District A and twenty-two second grade subjects from District B. In each case, the districts had completed their first year of implementation in the program.

District A has a population of 34,300. There are seven elementary schools (kindergarten to grade 5) within this district, including a student population of 3,026 and teaching staff of 141. Four schools designated as Reading Recovery sites were selected for this study.

District B has a population of 80,600. There are thirty-five elementary schools in this district (kindergarten to grade 5), with a total of 695 elementary teachers and 11,031 elementary students. Nine schools designated as Reading Recovery sites were selected for this study.

Eleven teachers in four elementary schools in District A and eleven teachers in nine schools in District B participated in the research study. The role of the teaching population was solely to provide information about each subject through written questionnaires and to allow the researcher to remove subjects from the classroom for data collection on four visitation dates during the study. All members of the teaching population were females, including twenty-one Caucasians (95%) and one Hispanic (5%).

The years of teaching experience ranged from two years to twenty-eight years for an average of 14.4 years for the total teaching population. There was a slight discrepancy between teaching populations in the two districts with an average of 11.9 years in District A and 16.9 in District B. In spite of this discrepancy, interestingly, there was a discrepancy in the opposite direction in terms of degree of education. While only 18% of the teachers in District B held Masters degrees, this rose to 45% of the teachers in District A. Only one teacher in the study had earned a Doctorate degree (9%).

Teachers were asked to categorize themselves in three ways in terms of their primary teaching philosophy. Categories included basal/skills approach, whole language (including literature-based) approach, and an eclectic approach which included a combination of whole language and basal approach. Twenty-seven percent of the teachers in District A identified themselves as basal/skills teachers

while 45% of the teachers in District B placed themselves in this category. Eighteen percent of the teachers in District A identified themselves with a whole language philosophy with 9% of the teachers in District B. Eclectic teachers were found to be 55% of the District A and 36% of the District B teaching population.

Of the total teaching population, 36% identified themselves as basal/skills, 14% as whole language, and 45% eclectic.

Instrumentation

Data was divided into three collection periods in order to support the hypotheses. All literacy measures were collected by the researcher with the exception of the standardized literacy measure which was provided by the districts. Teachers were not asked to complete any assessment measures, rather simply to release students to the researcher for data collection. The three data collection periods included 1) initial and end-of-the-year measures; 2) reading samples collected over time; and 3) a standardized literacy measure.

1. Initial and end-of-the-year measures:

Measures of reading proficiency were collected at the beginning of second grade (October 1993), and again at the end of second grade (May 1994). The initial measures allowed the researcher to determine if differences existed between

groups on these literacy measures. The end-of-the-year measures provided a comparison for the performance between the RR and CTL groups. Six literacy measures included (a) writing vocabulary, (b) sound analysis, (c) spelling vocabulary, (d) word recognition, (e) text reading level, and (f) self-correction rate.

(a) Writing Vocabulary: Using a task devised by Robinson (1973), students were prompted to write a series of words within ten minutes. This served as a measure of the ability to write sight vocabulary. Scores represented the number of words correctly spelled without hesitation. Students who attempted to sound out a word were prompted for the next word. All subjects were presented with the same series of word prompts in order to aid them in writing quickly and steadily. First and last name and sight vocabulary selected from Fry's *New Instant Word List* (Fry, 1980) were prompted for all subjects.

During prompting, opportunities were taken to assess the ability to generate new words from known. For example, students writing *sat* correctly were asked to then write words with similar ending phonemes (e.g., *fat, hat, mat* and *cat*). To assess the student's ability to use words endings, correctly spelled words such as *look* were prompted for related words (e.g., *looking, looks, looked*).

A complicating factor related to this assessment was the limited number of words which can be written in a specified period of time. A second factor resulted from instruction in

cursive writing, often slowing down writing attempts. Students were reminded to print words quickly and were encouraged to move on to the next word when attempting to sound out the word.

(b) Sound Analysis: Students were asked to write a sentence presented orally in order to measure the ability to analyze sounds in words. The sentence was selected by the Reading Recovery Program as representative of a second grade writing sample (Appendix A) which includes 64 sounds. Scores reflected the number of sounds written correctly by translating phonemes to written graphemes. Because this is a sound analysis rather than a spelling test, graphemes which represented each sound were accepted. In other words, students who wrote *wuz* for the word *was* received full credit of three points.

(c) Spelling Vocabulary: Using the same sentence selected for sound analysis, the ability to spell words correctly was assessed. This sentence included eighteen words. The score, in this case, represented the number of correctly spelled words. Each word was counted only if the precise spelling was provided by the child.

(d) Word Recognition: The ability to instantly recognize and read words presented in isolation was measured. Because this is a measure of sight vocabulary, words were scored as correct only if read within five seconds. Students who attempted to sound out words were encouraged to move on

to the next word. Words were presented in isolation, so context was not provided.

The Slosson Oral Reading Test-Revised (Slosson, 1990) was selected as a quick estimate of reading. Words were presented in graded word lists of twenty words. Reading continued until the child was unable to read all twenty words in a list.

The test author suggests that SORT-R may be used to determine progress during the school year, for screening purposes, or as a screening device for individuals possessing above average reading ability. It consists of 200 words arranged in ascending order of difficulty in groups of twenty. These words approximate grade reading levels. The word lists are taken from Dolch Sight Vocabulary, tests of reading, and reading lists found in textbooks at the selected grade levels. Each word represents 1/2 month progress.

The test is designed for use with grades primer to grade 12 with an administration time of 3 minutes. SORT-R is reported to have good criterion concurrent reliability. The reliability coefficient of the SORT-R on Kuder-Richardson formula 21 is .98 (Slosson, 1990).

(e) Text Reading Level: Text reading level measures the ability to read increasingly difficult texts with an accuracy rate of 90% or greater. Texts are leveled by the Reading Recovery program of Ohio State University, representing grade levels of readiness to grade 8 on a gradient level (see Appendix B). Level 18 and 20 represent beginning and end of

grade 2 texts respectively. These levels are intended to serve as a guide only.

Following a brief story introduction repeated in an identical manner for all subjects, students were asked to read a brief text averaging 200 words. All texts are similar in structure to a basal reader and are representative of the type of text typically found in most second grade classrooms. Text selections included portions of stories so students were not asked to read connected text. There were a limited number of pictures to accompany texts.

For the initial measure, each subject was asked to read a level 18 text, representing the beginning of the second grade level. If subjects were able to read with an accuracy of 90% or greater, reading continued at increasingly difficult levels until accuracy fell below 90%. Subjects unable to read a level 18 text read at the preceding text level until the highest level at which they were able to read with 90% accuracy was determined.

For the end-of-the-year measure, each subject began by reading the text level following the highest level of difficulty found in the initial measure. In other words, a student who read a level 18 with 90% accuracy during the initial assessment was presented with a level 20 as the first reading on the end-of-the-year reading. Again, text levels were presented at higher or lower levels until the highest level at which the subject could read with a 90% accuracy was determined.

(f) Self-correction rate: Using the same texts collected for text reading level, self-correction rate was determined. Self-correction rate is the ability to detect and correct errors in oral reading. An error is any deviation from the text. A self-correction was scored only when the correction was initiated by the subject without prompting of any kind. Self-correction rate was calculated using a mathematical procedure described by Clay (see Appendix C).

In addition to the six literacy measures, questionnaires were prepared by the researcher for completion by parents and teachers (see Appendix D). The information was used to describe the student population (parent and teacher questionnaire) and the teaching population (teacher questionnaire). Teacher questionnaires were completed in writing, while parent questionnaires were completed by phone interviews with the researcher.

2. Reading samples collected over time

Reading samples were collected during two separate visits (January and March 1994) in order to serve as a literacy measure over time. Two measures collected included text reading accuracy and self-correction rate. Selected texts have been identified by the Reading Recovery Program through Ohio State University as Level 18 through 20, representing the beginning and end of grade 2 respectively. Level 18 was used for all subjects in the January sample,

while level 19 was used for the March sample. A list of suggested texts provided by Texas Woman's University was used for text selection (see Appendix E).

Texts were selected in order to represent a typical trade book structure, unlike the texts presented during the initial and end-of-the-year measures. All texts were brief (sixteen to twenty-four pages) containing approximately 300 to 700 words per book, which allowed students to read connected text with a complete story rather than a selected portion of text as was the case with text reading level. All texts were unfamiliar, goal-based narrative written in a natural language. Each included supportive pictures to accompany the text.

Each subject was presented with the same five texts, allowing the subject to select one book from the five texts presented. Self-selection of texts was considered critical so that personal interests and prior knowledge could be taken into account. Texts were selected to be comparable in text level as well as the level of support of pictures and complexity of the language. Limiting the selection to five books allowed the researcher to limit variability between books to some degree.

Books identified by the subject as familiar were immediately eliminated. This decision was made so that the focus of this reading would be on problem-solving behaviors using novel texts. Following a brief introduction presented in an identical manner for each subject, texts were read in

full. Two measures were analyzed for each subject including text reading accuracy and self-correction rate.

(a) Text Reading Accuracy: The ability to read grade level texts with a high level of accuracy was measured. The number of errors, or deviations from the text, were counted in order to determine word accuracy. Text reading accuracy was identified as the percentage of words read correctly.

(b) Self-correction rate: Using the same texts collected for text reading accuracy, self-correction rate or the ability to detect and correct errors during reading was calculated. Self-correction was determined only if the subject independently corrected the error without prompting. Self-correction rate is identified as a ratio (e.g., 1:3 means that one in three errors were self-corrected).

3. Standardized Literacy Measure (ITBS)

Iowa Test of Basic Skills (Hieronymus, Hoover, & Lindquist, 1986) is a standardized, norm referenced achievement test used as a measure of general reading ability based on district standards. This test was selected because it is typical of testing conducted in districts each year and would present a standardized literacy measure commonly used in elementary grades. Both districts represented in the study completed ITBS during the second semester of the 1993-94 school year.

ITBS was designed for use with grades K.1 to grade 9. The authors state that this test provides a comprehensive

measurement of growth in fundamental skills. ITBS is a group administered test with three forms currently available: G, H, J. The Basic Battery for forms G & H include twelve scores: Word Analysis, Vocabulary, Reading Comprehension (pictures, sentences, stories, Total), Spelling, Mathematics (Concepts, Problem Solving, Computation, Total). Testing time is 134-180 minutes for the basic battery. The content validity is described as good for forms G & H. Reliability coefficients are described as good on all forms with most in the expected range (mid .80s to low .90s).

Both districts gave students Primary Battery Level 7 and 8 of Forms G/H. The researcher was presented with ITBS scores at the end of the study (May 1994). For the purposes of this research, percentiles were provided by the district for each student in the area of reading comprehension only.

Design and Procedures

All available subjects in District A were included in the study, for a total of twenty students. An additional eleven subjects were secured from District B in order to increase the number of members of each group to thirty, the minimum suggested by research guidelines. District B subjects were secured by random sampling of the total Reading Recovery discontinued population.

Students in the CTL group were selected to represent the average range by a stratified random sampling from those classes in which members of the RR group were placed. A

stratified random sampling of each designated class allowed the researcher to limit the number of classrooms represented in the study, and consequently the number of teachers represented. By eliminating the number of teachers, the wide variety of teaching styles was also eliminated to some degree.

Prior to the selection of the CTL group, teachers were asked to eliminate Reading Recovery students or those receiving special education services. In addition, they were asked to eliminate the highest and lowest achieving student in this group. Although this was based on teacher judgment, it was felt that eliminating a student who fell on either end of the extreme would more likely result in a student population which fell within the average literacy range. The study began October 1993, one month after the start of the school year, in order to give teachers time to establish a clearer picture of the range of student abilities. Using the remaining subjects in the classroom, the CTL group was randomly selected using a table of random numbers.

Following selection of subjects, letters were prepared to explain the research to parents (see Appendix F). Once Consent Forms were secured (see Appendix H), parent interviews began. All parent interviews were conducted by the researcher by phone. This provided an opportunity to personally address any questions parents may have had and to collect information for the initial questionnaire.

Parents were asked to discuss the study with their child in order to respond to their questions and to alleviate any concerns the study might present. Information gained in the interview also provided a basis for the first informal meeting with subjects. One hundred percent of the parents were contacted for this interview.

This study was divided into one introductory session and four data collection sessions during the 1993-94 school year. The designation of four data collection sessions allowed the researcher to observe and note any changes in literacy performance throughout an extended period of eight months, or one school year.

All visits were conducted by the researcher individually in the subjects' home school. Each visit included a single session which varied in length from twenty minutes to one hour based on the purpose of the visit. Data collection for all sessions was identical for both groups. Selected sessions during the school year included:

Introductory Session: September 1993

An initial visit was scheduled for all subjects and their teachers in order to provide an opportunity for the researcher to meet those participating in the study prior to the collection of data. The purpose of this session was to address any questions and alleviate potential concerns. Each session took place individually, lasting approximately twenty minutes.

- Teacher Contact: Letters explaining the study (see Appendix F) were distributed to teachers. The researcher discussed the study and responded to any questions at this time. Teachers were asked to complete and mail the initial questionnaires, with 100% return. Teacher schedules were secured in order to alleviate any conflicts and the first visitation date was arranged.
- Student Contact: The purpose of this meeting was to establish rapport with subjects through an informal conversation. This served to alleviate any concerns related to the study. Future visits were explained to each student with an opportunity for them to ask any questions they may have had. In each case, subjects did not appear to have concerns and most expressed enthusiasm at having an opportunity to read on a one-to-one basis. This pleasure was heightened when remaining students in the classroom expressed displeasure at not being selected for participation.

Data Collection Session 1 - October 1993:

This visitation was designated for collection of initial literacy measures. Each individual session lasted approximately one hour so that measures could be collected in one visitation. A five minute break was scheduled during the session so that students would be able to remain on task. One subject had been identified as having an Attention

Deficit Disorder, so the testing period was extended by fifteen minutes to allow for additional breaks as needed.

Six literacy measures were collected including:

- the ability to write known sight vocabulary (writing vocabulary)
- the ability to analyze sounds in words (sound analysis)
- the ability to spell words in writing when presented in an oral sentence (spelling vocabulary)
- the ability to read words in isolation in a graded word list (word recognition)
- the ability to read increasingly difficult texts with an accuracy exceeding 90% (text reading level)
- the ability to detect and correct errors during oral reading of a text with an accuracy of 90% or greater (self-correction rate)

Writing vocabulary, sound analysis, and spelling vocabulary were completed in writing by the student. Instructions were presented precisely for each subject and scored according to specifications described in Instrumentation. Word recognition and text reading level were completed orally as a measure of the ability to read words in isolation (word recognition) and words in context (text reading level).

Text Reading level allowed the researcher to determine the ability to read increasingly difficult texts with an accuracy of 90% or greater. This was measured by asking the student to read orally. Testing continued for each student

until the highest level at which they were able to reach 90% accuracy was determined.

As each student read, the researcher recorded behaviors as they interacted with the text while taking a running record (Clay, 1985, 1993a). The running record, a method similar to miscue analysis (Goodman, Watson, & Burke, 1987), allowed the researcher to preserve the oral reading. This provided an opportunity to revisit the readings in order to determine the highest level at which students were able to read with 90% accuracy (text reading level) and error detection and correction (self-correction rate).

Accuracy and self-correction rate were determined using the calculations described in Appendix C.

Data Collection Session 2 - January 1994:

This session was scheduled in order to collect a reading sample using a grade level text, lasting approximately twenty minutes. Two literacy measures were examined during this data collection period, including the ability to read grade level material with a high level of accuracy (text reading level), and the ability to detect and correct errors during oral reading of grade level texts (self-correction rate).

Each subject was asked to read one level 18 text which represented the first half of second grade. Texts selected were similar to the look and feel of a typical tradebook with natural language and interesting, inviting stories. Stories

were brief so that students could read them in their entirety at one sitting.

Each subject read a novel text by selecting one of the five texts presented. Providing alternative texts for the subject to select took personal interests and prior knowledge into account, yet kept control of initial selection with the researcher. Texts represented unfamiliar goal based narratives at the second grade level. Reading was preceded by a story introduction presented in an identical manner for each subject.

All readings were audio taped as the researcher took a running record. This allowed the researcher to revisit the readings to check for accuracy for miscues and self corrections and to calculate scores. Running records were used solely to determine level of accuracy and self-correction rate.

Data Collection Session 3 - March 1994:

A second reading sample was collected at this time. The same procedure used for Data Collection Session 3 was followed, although a level 19 text was used to represent the last half of second grade.

Data Collection Session 4 - May 1994:

The purpose of the final visitation was to collect end-of-the-year measures. All data collected in October 1993 were repeated at this time. Because both school districts

conduct annual Reading Recovery assessment using Clay's Diagnostic Survey, the Dictation Test (sound analysis and spelling vocabulary) and Text Reading (text reading level and self-correction rate) portion of testing were completed by district Reading Recovery teachers. This alleviated a repetition of testing for the RR group. Copies of all assessment completed by the districts were presented to the researcher at the conclusion of the study.

Because both the researcher and individuals completing testing had all participated in Reading Recovery training based on Marie Clay's procedures, this was not considered to be problematic for the purposes of this study. The researcher completed writing vocabulary and word recognition measures for the RR group and the total assessment battery for the CTL group.

At the end of the final session, teachers were given a follow-up questionnaire (see Appendix D) to complete and return to the researcher by mail. There was 100% return on teacher questionnaires.

The researcher contacted all parents by phone for a follow-up interview. This interview was complicated by several changes in phone numbers and the researcher's inability to secure number changes from the districts. Participation was, however, high with 90% contact in the RR group and 89% contact in the CTL group. Since the initial parental contact was 100%, this was not considered to be a complicating factor.

Prior to the conclusion of this session, each district provided the researcher with the Iowa Test of Basic Skills (ITBS) score given during the second semester. Percentile scores were presented on all subjects for reading comprehension. This was used as a measure of a nationally administered standardized test.

Analysis

In order to determine if initial differences existed between groups at the beginning of the second grade year, t-tests were run. The results provided a comparison of the two groups at the beginning of the study on each of the six literacy measures, including writing vocabulary, sound analysis, spelling vocabulary, word recognition, text reading level, and self-correction rate.

The measures obtained in the three data collection sessions were examined by using three different statistical procedures, including ANCOVA, Repeated Measure ANOVA, and ANOVA.

A series of ANCOVAs provided a comparison of the reading proficiency between groups on six end-of-the-year literacy measures while controlling for initial differences which existed. It was hypothesized that the RR group would perform at least as well as the CTL group on these measures.

In January and March, reading samples were collected using grade level texts to examine two measures: text reading accuracy and self-correction rate. Data was analyzed

using Repeated Measures ANOVA in order to measure performance over time. It was hypothesized that the RR group would perform at least as well as the CTL group.

At the end of the school year, the Iowa Test of Basic Skills (ITBS) was analyzed using an ANOVA, providing a standardized measure. Percentile scores for the reading comprehension portion were analyzed. The purpose of this measure was to determine the ability of subjects to complete a nationally administered standardized reading test. It was hypothesized that the RR group would perform at least as well as the CTL group.

Hypotheses

This study tested the following hypotheses:

1. Students who discontinue from the Reading Recovery Program would perform at least as well as their peers on six end of the year literacy measures including:

- the ability to write known sight vocabulary (writing vocabulary)
- the ability to analyze sounds in words (sound analysis)
- the ability to spell words in writing when presented in an oral sentence (spelling vocabulary)
- the ability to read words in isolation in a graded word list (word recognition)
- the ability to read increasingly difficult texts with an accuracy exceeding 90% (text reading level)

- the ability to detect and correct errors during oral reading of a text with an accuracy of 90% or greater (self-correction rate)

2. Students who discontinue from the Reading Recovery Program would perform at least as well as their peers on two literacy measures over time including:

- the ability to read grade level material with a high level of accuracy (text reading level)
- the ability to detect and correct errors during oral reading of grade level texts (self-correction rate)

3. Students who discontinue from the Reading Recovery Program would perform at least as well as their peers on the reading comprehension portion of the Iowa Test of Basic Skills (ITBS), a nationally administered standardized test.

The hypotheses were selected in order to compare the reading proficiency between the RR and CTL groups on several literacy measures throughout the second grade year. It was hypothesized that the RR would perform at least as well as the CTL group on all measures.

Hypothesis 1 was analyzed by using a series of ANCOVAs to compare the performance between groups on these measures while controlling for individual differences. Hypothesis 2 was analyzed using Repeated Measures ANOVA in order to provide a measure over time. Hypothesis 3 was analyzed using ANOVA.

CHAPTER IV

RESULTS

The differences in reading proficiency between the Reading Recovery (RR) and Control (CTL) groups were examined using a variety of different measures which were obtained at different intervals during the second grade year. For statistical purposes, these measures were grouped into three different analyses in order to test the hypotheses of this study. All significance levels were set at alpha = .05, unless otherwise noted.

For the first analysis, six measures of reading were taken at the beginning of second grade, and again at the end of second grade. This analysis provided an in-depth comparison of the RR and CTL groups' reading proficiency, both at the beginning and at the end of the second grade year, allowing the researcher to compare their performance at different time intervals.

Measures of reading competence included the ability to write known sight vocabulary (writing vocabulary); the ability to analyze the sounds in words (sound analysis); the ability to spell words in writing when presented in an oral sentence (spelling vocabulary); the ability to read words in isolation in a graded word list (word recognition); the

ability to independently read increasingly difficult texts with an accuracy of 90% or greater (text reading level); and the ability to recognize and correct errors during oral reading (self-correction rate).

The second analysis looked at accuracy and self-correction measures collected in January and again in March of the second grade year. This analysis provided a different comparison of the RR and CTL groups, both because it reflected different measures (reading at grade level instead of determining highest grade level) and because it looked at change over time. At this time, the level of text difficulty was not considered as all subjects read at the same level of difficulty, a second grade text (January, level 18; March, level 19). Because subjects read a single grade level text, level of accuracy was considered an important aspect of this assessment as it could fall within any range. The level of accuracy informed the researcher of the extent to which the subject was able to independently read a grade level text. This was further illustrated by determining the self-correction rate for each sample.

Finally, a third analysis looked at group differences in reading performance as measured by a standardized reading test, Iowa Test of Basic Skills (ITBS) obtained at the end of the second grade year. ITBS is a standardized achievement test given by both school districts during the second half of the second grade, February 1994. The score represents the percentile rank (PR), or the student's status or relative

standing in comparison to other students. Since no previous standardized test scores were available for comparison, this analysis simply provided a snapshot of the two groups at the end of second grade.

Although extreme care was taken to randomize the two groups as far as possible, the RR group could not be truly randomly selected, thus leading to the possibility of non-equivalent groups. To check whether the groups were similar at the beginning of the second grade year, t-tests were run to compare the two groups on each of the six measures of initial reading competence described above: writing vocabulary; sound analysis; spelling vocabulary; word recognition; text reading level; and self-correction rate. Results are shown in Table 4.1. There were no significant differences between the two groups in writing vocabulary, sound analysis, spelling vocabulary, or word recognition; however, significant differences were found on the measures of text reading level ($t=2.55$, $p=.01$) and self-correction rate ($t=2.62$, $p=.01$), with the RR group starting out second grade significantly higher than the CTL group.

TABLE 4.1

t-Test of Initial Reading Proficiency

	Mean	St Dev	t Value	P>t
Writing Vocabulary				
Reading Recovery	68.52	15.75	-.14	.89
Control	69.13	17.68		
Sound Analysis				
Reading Recovery	57.74	4.55	1.16	.25
Control	56.32	5.10		
Spelling Vocabulary				
Reading Recovery	9.65	2.85	.25	.80
Control	9.45	3.22		
Word Recognition				
Reading Recovery	98.10	6.66	1.32	.19
Control	95.90	6.38		
Text Reading Level				
Reading Recovery	21.16	4.81	2.55	.01
Control	17.77	5.63		
Self-correction Rate				
Reading Recovery	30.65	13.04	2.62	.01
Control	21.94	13.13		

First Analysis

Because the groups were different on some initial measures, it was decided to equate the groups for the first analysis, using a series of ANCOVAs, with the initial scores as covariates, and the final scores as dependent variables. According to Huberty & Morris (1989), the use of MANOVA (or MANCOVA) to precede univariate analyses when using multiple

dependent variables is unnecessary. Each of the ANCOVA models was first run including the interaction between the covariate and the group variable to test for homogeneity of variance. Each of the six ANCOVAs met the homogeneity of variance test (that is, the covariate by group interaction was non-significant), so the models were rerun using only the group and covariate variables.

The purpose of the first analysis was to compare the performance of the RR and CTL group on several measures of reading proficiency. It was hypothesized that the RR group would perform at least as well as the CTL group in reading proficiency as measured by writing vocabulary, sound analysis, spelling vocabulary, word recognition, text reading level, and self-correction rate. Table 4.2 shows the F values associated with the interaction terms for each of the six models.

TABLE 4.2

Covariate by Group Interactions
Tests for Homogeneity of Variance

Interaction	DF	Sums of Sq	Mean Sq	F value	Pr>F
Writing Vocabulary	1	283.98	283.98	1.80	0.1846
Sound Analysis	1	3.69	3.69	0.66	0.4192
Spelling Vocabulary	1	.17	.17	0.05	0.8288
Word Recognition	1	14.55	14.55	0.90	0.3464
Text Reading Level	1	28.75	28.75	3.05	0.0860
Self-Correction Rate	1	43.94	43.94	0.47	0.4953

Table 4.3 shows the final ANCOVA results for the writing vocabulary variable. There were no significant differences between the RR and CTL groups on the ability to write known sight words when controlling for initial differences on this variable ($F(1,59)=0.01$; $p=.9206$). The adjusted mean values were 94.82 for the RR group and 94.50 for the CTL group. The results indicated that the RR group performed at least as well on this measure as the CTL group.

TABLE 4.3

ANCOVA Results for Writing Vocabulary

Source	DF	Sums of Sq	Mean Sq	F value	Pr>F
Group	1	1.60	1.60	.01	.9206
Writing Vocabulary	1	16757.86	16757.86	104.97	.0001
Error	59	9418.72	159.64		

Adjusted Means: RR = 94.82 CTL = 94.50

Sound analysis demonstrated the ability to analyze the sounds in words. Table 4.4 shows the sound analysis variable for the final ANCOVA results. The adjusted mean values of 60.24 for the RR group and 59.99 for the CTL group show that there were no significant differences between the RR and CTL groups when controlling for initial differences ($F(1,59)=0.17$; $p=.6804$). The results indicated that the RR group performed at least as well as the CTL group on this measure.

TABLE 4.4

ANCOVA Results for Sound Analysis

Source	DF	Sums of Sq	Mean Sq	F value	Pr>F
Group	1	.95	.95	0.17	.6804
Sound Analysis	1	267.44	267.44	48.25	.0001
Error	59	327.01	5.54		

Adjusted Means: RR = 60.24 CTL = 59.99

The ability to spell words presented orally is demonstrated by the spelling vocabulary variable. Table 4.5 shows the final ANCOVA results. When controlling for initial differences, there were no significant differences between the RR and CTL groups on this variable ($F(1,59)=3.60$; $p=.0627$). The adjusted mean values of 13.20 for the RR group and 12.28 for the CTL group indicated that the RR group performed at least as well on this measure as the CTL group.

TABLE 4.5

ANCOVA Results for Spelling Vocabulary

Source	DF	Sums of Sq	Mean Sq	F value	Pr>F
Group	1	13.11	13.11	3.60	.0627
Spelling Vocabulary	1	186.52	186.52	51.22	.0001
Error	59	214.84	3.64		

Adjusted Means: RR = 13.20 CTL = 12.28

Table 4.6 shows the final ANCOVA results for the word recognition variable which measures the ability to read words in isolation. There were no significant differences between the RR and CTL groups when controlling for initial differences ($F(1,59)=3.29$; $p=.0750$). The adjusted mean values were 100.50 for the RR group and 98.63 for the CTL group. As indicated by these results, the RR group performed at least as well on this measure as the CTL group.

TABLE 4.6

ANCOVA Results for Word Recognition

Source	DF	Sums of Sq	Mean Sq	F value	Pr>F
Group	1	52.96	52.96	3.29	.0750
Word Recognition	1	3092.87	3092.87	191.87	.0001
Error	59	951.07	16.12		

Adjusted Means: RR = 100.50 CTL = 98.63

Table 4.7 shows the final ANCOVA results for the text reading level variable. Text reading level is the ability to read increasingly difficult texts. There was a significant difference between the RR and CTL groups when controlling for initial differences on text reading level ($F(1,59)=12.15$; $p=.0009$). The adjusted mean values were 26.36 for the RR group and 23.45 for the CTL group. The results show over a 3 point difference which indicated that the RR group performed significantly higher on this measure than the CTL group.

TABLE 4.7

ANCOVA Results for Text Reading Level

Source	DF	Sums of Sq	Mean Sq	F value	Pr>F
Group	1	118.52	118.52	12.15	.0009
Text Reading Level	1	812.15	812.15	83.27	.0001
Error	59	575.46	9.75		
Adjusted Means:	RR = 26.36		CTL = 23.45		

The final variable for the first analysis was self-correction rate, or the ability to detect and correct errors during oral reading. Table 4.8 shows the final ANCOVA results with no significant differences between the RR and CTL groups when controlling for initial differences on the self-correction variable ($F(1,59)=0.84$; $p=.3630$). The results indicated that the RR group performed at least as well on this measure on this measure as the CTL group with adjusted mean values of 12.47 for the RR group and 10.11 for the CTL group. Although the mean is higher for the RR group, it is not high enough to show a significant difference.

TABLE 4.8

ANCOVA Results for Self-Correction Rate

Source	DF	Sums of Sq	Mean Sq	F value	Pr>F
Group	1	77.71	77.71	.84	.3630
Self-Correction Rate	1	665.72	665.72	7.20	.0094
Error	59	5455.83	92.47		

Adjusted Means: RR = 12.47 CTL = 10.1

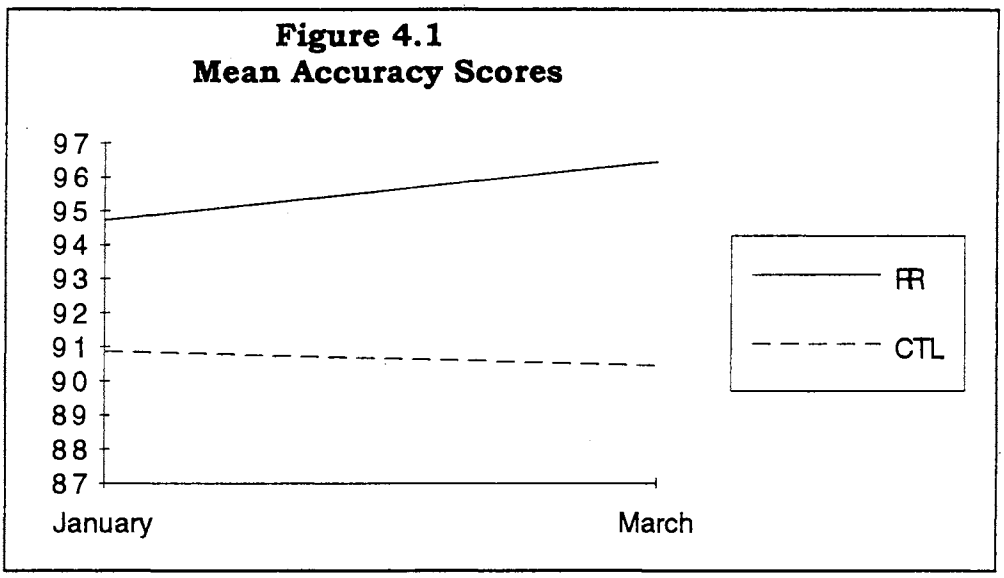
Second Analysis

In January and again in March of the second grade year, students in both the RR and CTL groups were tested using grade level texts (level 18 in January, level 19 in March) on two measures: accuracy and self-correction. The purpose of this analysis was to examine progress over time. It was hypothesized that the RR group would perform at least as well as the CTL group on these two measures. The test procedures were identical for each assessment period with the exception of the level of the text. A running record was taken as subjects read orally to record reading behaviors. Levels of accuracy and self-correction rate were determined in both January and March. The data were analyzed using repeated measures ANOVA as shown in Table 4.9 and 4.10.

Table 4.9

Repeated Measures ANOVA for Text Reading Accuracy

Source	DF	Sums of Sq	Mean Sq	F value	Pr>F
Group	1	750.20	750.20	23.90	.0001
Error (betwn)	60	1883.48	31.39		
Time	1	13.56	13.56	1.51	.2235
Group*Time	1	36.20	36.20	4.04	.0490
Error (within)	60	537.74	8.96		



For the measures of accuracy, the interaction of accuracy by time (where time represents the difference between January and March) was found to be significant ($F(1,60)=4.04$, $p=.0490$); thus accuracy differences between the two groups must be interpreted in relation to the time of measurement. Figure 4.1 shows that the RR group was consistently higher than CTL group on accuracy; however, note

that while the RR group improved slightly in accuracy from January to March, the CTL group declined slightly.

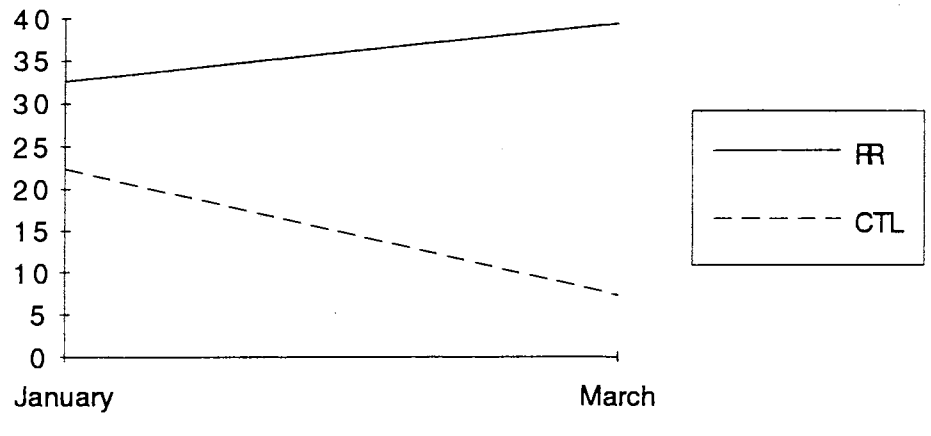
For the self-correction variable, the interaction of self-correction by time was also significant ($F(1,60)=38.31$, $p=.0001$). Figure 4.2 shows that the RR group was consistently higher than the CTL group; however, while the RR group increased self-correction from January to March, the CTL group decreased from January to March.

Table 4.10

Repeated Measures ANOVA for Self-Correction Rate

Source	DF	Sums of Sq	Mean Sq	F value	Pr>F
Group	1	13860.65	13860.65	73.26	.0001
Error (betwn)	60	11352.19	189.20		
Time	1	524.40	524.40	5.40	.0235
Group*Time	1	3718.07	3718.07	38.31	.0001
Error (within)	60	5823.03	97.05		

Figure 4.2
Mean Self-Corrections Scores



Third Analysis

Standardized ITBS reading scores were obtained for all students at the end of the second grade year, which provided another comparison of the RR group and CTL group. Although each district provided scores based on grade, NCE, and percentile rank for each subject, percentile scores were selected for reporting purposes. This decision was made in order to serve as a more accurate reflection of the status or relative standing of each subject in comparison to other subjects taking the test. Grade scores did not take other factors such as age into account. NCE scores were not used because, according to the test authors, "NCEs have little direct normative meaning to the typical use." NCE scores must be related to other scores such as percentile ranks to be interpreted (Hieronymus, Hoover, & Lindquist, 1986, p. 55).

Since no previous comparable standardized scores were available (thus there were no possible covariates to equate the groups), the data were analyzed with an ANOVA. The purpose of the third analysis was to compare the RR and CTL group on a standardized reading measure. It was hypothesized that the RR group would perform at least as well as the CTL group on this measure.

The results, presented in Table 4.11, showed no statistically significant differences in ITBS scores between the two groups. These results indicated that the RR group's performance on the ITBS was similar to that of the CTL group.

TABLE 4.11

Comparison of ITBS Scores

Source	DF	Sums of Sq	Mean Sq	F value	Pr>F
Group	1	90.73	90.73	0.22	.6431
Error	60	25100.13	418.34		

RR	Mean = 32.84	Std. Deviation = 18.59
CTL	Mean = 35.26	Std. Deviation = 22.16

Summary

The results were analyzed in three parts by using ANCOVA, Repeated Measures ANOVA, and ANOVA. ANCOVA test results indicated that there were no significant differences between the RR and CTL groups on five variables: writing vocabulary, sound analysis, spelling vocabulary, word recognition, and self-correction rate. There was a significant difference between the RR and CTL groups on text reading level, even when controlling for initial differences.

The results of Repeated Measures ANOVA indicated that there was a significant difference between the RR and CTL groups on both text reading accuracy and self-correction rate, with the RR group significantly higher than the CTL group on both measures.

The results of the third analysis using ANOVA indicated that there were no significant differences between the RR and CTL groups on the standardized measure (ITBS).

The results of this study indicated that the RR group performed as well on all reading measures as the CTL group, as previously hypothesized.

CHAPTER V

DISCUSSION

Findings

This study has uncovered three important findings which support the major research hypotheses. Each of these findings illustrates that children who successfully discontinue the Reading Recovery Program are able to keep pace with or surpass their peers when measured on several literacy tasks.

The first finding is that the RR group performed at least as well on six end-of-the-year literacy measures, including the ability to write known sight vocabulary (writing vocabulary); the ability to analyze sounds in words (sound analysis); the ability to spell words in writing when presented in an oral sentence (spelling vocabulary); the ability to read words in isolation in a graded word list (word recognition); the ability to read increasingly difficult texts with an accuracy exceeding 90% (text reading level); and the ability to detect and correct errors during oral reading of a text with an accuracy of 90% or greater (self-correction rate)

Using ANCOVA to compare reading proficiency between groups while controlling for initial differences which

existed, (text reading level and self-correction rate), there were no significant differences between the two groups on writing vocabulary, sound analysis, spelling vocabulary, word recognition, and self-correction rate, although the RR group was slightly higher than the CTL on the self-correction variable. There was a significant difference on the text reading level variable with the RR group significantly higher than the CTL group.

The second finding of this study is that the RR group showed significant improvement over time as assessed by the ability to read grade level material with a high level of accuracy (text reading accuracy), and the ability to detect and correct errors during oral reading of grade level texts (self-correction rate). On both measures, the RR group received significantly higher scores than the CTL group.

The third finding of this study is that no significant differences were found between the RR and CTL group when reading proficiency was measured by the Iowa Test of Basic Skills (ITBS), a nationally administered standardized test, indicating that the RR group performed at least as well as the CTL group.

These results are consistent with several studies which have shown that students who have successfully discontinued from the Reading Recovery Program sustain gains following discontinuation (Askew & Frasier, 1994; Clay, 1985, 1993b; DeFord et al., 1990; Pinnell, 1989; Pinnell et al., 1988; Smith-Burke et al., 1993). Additional studies have shown

that students who participate in the Reading Recovery program reach average levels after discontinuation and are able to continue making progress in reading and writing through the regular class program (Clay, 1985, 1990; Lyons, Pinnell, DeFord, Place, & White, 1990; National Diffusion Network, 1993; Pinnell, 1989; Pinnell et al., 1988; Slavin & Madden, 1989; Smith-Burke et al., 1993).

This research study examined the literacy performance of thirty-one discontinued Reading Recovery subjects throughout grade 2 for an eight month period. Their literacy performance was compared with thirty-one randomly selected peers to represent the average range.

It is important to note that the RR group were identified as having the lowest literacy profile in grade 1. Subjects in the CTL group were not identified as the lowest 20% and did not participate in an early intervention program.

This difference in literacy profile is further supported by data provided by parents regarding early literacy experiences. Sixty-eight percent of the parents of the RR group described kindergarten as a negative experience, with 52% recommended for Developmental First (D-1) or Transitional First (T-1) grade programs. By contrast, only 35% of the parents in the CTL group reported negative experiences in kindergarten with 19% recommended for D-1 or T-1 classes. All parents refused placement in these classes with the exception of one parent in the CTL group.

The literacy measures selected for this study included both reading and writing tasks because they are mutually supportive (Tierney & Shanahan, 1991). It was believed that this would provide a broader range of literacy measures for comparison. A standardized measure (ITBS) was selected to represent a traditional school assessment measure, again resulting in a wider range for comparison. The lack of a standardized measure has been cited in previous related studies as a criticism (Askew & Frasier, 1994; Center et al., 1995).

The results of this study have shown that there were no significant differences found between the RR and CTL group on the end-of-the-year writing measures including writing vocabulary, sound analysis, and spelling vocabulary. Students in both groups were able to write an equivalent number of sight vocabulary and spelling vocabulary. In addition, all subjects were comparable in the ability to generate words using the same ending phonemes (e.g., *book, took, shook*) and add ends to known words to create new words (e.g., *jump, jumping, jumped*).

There were no significant differences on the ability to analyze sounds in words. Subjects in each group correctly represented a high percentage of sounds in words with an average mean of sixty of sixty-four sounds represented in both groups.

The same second grade sentence was used for sound analysis and spelling vocabulary. Interestingly, subjects in

each group performed less well on spelling vocabulary than sound analysis. The average number of words for both groups was thirteen of eighteen words. It appeared that many subjects were approaching conventional spelling but an overgeneralization of many rules was evident (e.g., *litle/little*; *driping/dripping*; *streme/stream*; *watter/water*). This lowered the score for words spelled correctly (spelling vocabulary) without affecting the sounds represented (sound analysis).

There was no significant difference between groups on the ability to read words in isolation (word recognition). It should not be surprising that results of the measures of writing words in isolation and reading words in isolation were comparable as there is a high relationship between the two (Clay, 1993b).

Because a t-test showed that initial differences existed between the RR and CTL groups on text reading level and self-correction rate, ANCOVA was used to equate groups for the end-of-the-year measure. When controlling for initial differences which existed, there was no significant difference on the end-of-the-year measure for self-correction rate, however, the RR group was slightly higher than the CTL group.

Self-correction measures the ability of subjects to independently detect and correct errors during oral reading. The average self-correction rate for the RR group was 1:8 (one error in every 8 were independently corrected by the

reader) while the CTL group had a mean self-correction rate of 1:9.

There was a significant difference between groups, however, on the end-of-the-year measure for text reading level, even when controlling for initial differences. The RR group was significantly higher than the CTL group in their ability to read increasingly difficult texts at an accuracy of 90% or greater.

Graded texts representative of the typical basal reader found in second grade classrooms were used for this measure. Texts are graded from 1-34, representative of readiness to grade 8 texts (see Appendix B). Students were asked to read only a small portion of the text rather than a connected story and there were a limited number of pictures to support the text.

The significant difference found between groups on this measure supports that subjects in the RR group were able to sustain literacy gains and surpass their peers on the level of text difficulty they were able to read. The mean text level for the RR group at the end of the year (26.36) was equivalent to a text level of grade 4, while the mean text level for the CTL group (23.45) was equivalent to grade 3.

While it is true that these text levels must be considered approximate grade levels, the significant difference found between level of difficulty provided evidence that the RR group was able to read a text at or

above second grade level, and surpassed their peers on this measure.

In examining text levels for the end-of-the-year measure, only one student in the RR group was unable to read at or above the expected text level (level 20). By contrast, ten students in the CTL group failed to read at a level 20 or greater, with two students unable to read above a level 10 (primer).

This may be expected to be related, in part, to the discontinuation of most subjects in the RR group toward the end of grade 1. Subjects in the RR group were beginning to orchestrate strategies they had learned during participation in the program. Although the level of fluency tended to be higher in the CTL group at the beginning of the year, fluency was comparable by the end of the year.

In January and March of the second grade year, both groups read a grade level text (January, level 18; March, level 19) to determine the level of accuracy and self-correction rate over time using grade level material. In each case, text selections were representative of the text structure found in trade books with the look and feel of a story book. Each subject read one novel text of sixteen to twenty-four pages with a single connected story.

Readers in these samples were asked to read the text in full, so the ability to read connected text was a focus of these readings. Unlike the texts presented during the

initial and final measures, the stories contained a natural language with inviting stories and supportive pictures.

During both the January and March reading, two literacy measures were assessed: text reading accuracy and self-correction rate. Accuracy reflects the ability to read grade level material with a high level of accuracy. The first measure for this analysis showed that there was a significant difference between groups. The RR group was significantly higher on accuracy on both the January and March samples. A significant finding is related to the differences in each group both on the January and March accuracy level, as well as the differences over time between January and March readings.

According to Clay (1985), an accuracy below 90% represents *hard* text, or that which is at a frustration level; 90% to 94% accuracy represents *instructional* text, or that for which the reader may need limited support; and an accuracy of 95% or greater represents *easy* text, or one that can be read independently (p. 17).

The mean accuracy for the RR group both in January (94.71) and March (96.45) represents an independent level. The mean accuracy for the CTL group in January (90.87) and March (90.45) represents an instructional level, in each case only slightly above a frustration text. It is interesting to note that, while the level of accuracy increased during the March reading for the RR group, the March sample for the CTL group decreased slightly (see Figure 4.1).

It should also be noted that, while the mean text level for the CTL group at the end of the year (23.45) was third grade level, many of the subjects could not read these second grade texts at an accuracy of 90% or greater. The mean accuracy level for the CTL group was barely above 90% using second grade texts. This difference should not be surprising, however, when one considers the differences between groups on the ability to read texts at an increasingly difficult level found in the initial and end-of-the-year measures.

The second measure, self-correction rate, is related to the level of accuracy and should be considered simultaneously in this discussion. There was a significant difference between groups on self-correction, or the ability to independently detect and correct errors. The RR group was significantly higher than the CTL group on both the January and March samples. Again, it is important to note the differences in self-correction over time. While the RR group increased in self-correction rate, the CTL group declined in self-correction rate over time (see Figure 4.2).

On the January sample, the average self-correction rate for the RR group was 1:3 (one of every three errors was independently corrected by the reader) while the CTL was between 1:4 or 1:5. There was, however, a substantial difference between groups in the March sample. While the RR group continued to correct every 1:2 to 1:3 errors independently, the CTL group corrected only 1:13 errors.

This was significantly lower than the January sample for the CTL group, while the RR group maintained a high level of self-correction over time.

In identifying factors which may relate to these differences, the structure of the texts used should be considered. At the end of the year measure, the RR group self-correction rate was significantly higher using connected stories (1:2 or 1:3) than the texts representing the basal structure (1:8). Initially, this was also the case for the January measure for the CTL group. While they had 1:9 self-correction on the basal structure, the January sample was 1:4 self-correction rate; however, for the March sample for the CTL group increased to 1:13.

Two factors which account for these differences, at least in part, should be considered. First, the focus of the Reading Recovery Program is on the development of the effective use of strategies. During participation in the program, students are guided by teacher questioning and discussion directed at reinforcing effective strategy use and independent application of in-the-head strategies during reading. Students are encouraged to verbalize the use of strategies and to consider options available to them.

The end goal of the program is the development of a self-extending system in which the reader increases the ability to read with each encounter. The high rate of self-correction reflected that members of the RR group had

developed the ability to monitor their comprehension, and to apply fix-up strategies when comprehension failed.

The second factor which should be considered further relates to the structure of texts used in this study. This is important in terms of classroom application for material selection. The ability to detect and correct errors independently appears to be significantly higher using texts structured like trade books. The need for appropriate texts has been established (Allington, 1983). This study may support the finding of Indrisano & Paratore (1992) that children's literature provides the best source of meaningful text. The inclusion of two text structures in this study provided a valuable source of comparison in responding to this question, although further research is needed to determine the type of material which best supports children in the use of strategies during oral reading.

A final measure was collected for all subjects at the end of the second grade year to determine the level of performance on a standardized measure given by the district. Percentile ranks for reading comprehension scores were collected on all subjects for Iowa Test of Basic Skills (ITBS). There were no significant differences found between the groups on this measure.

Scores reflected on ITBS often contradicted those found on other measures collected in this study. In comparing ITBS with text level, children who scored below grade level on text reading tended to also score below grade level on ITBS;

however, the reverse was not necessarily true. In many cases, subjects who scored above grade level on text reading scored poorly on ITBS in both groups. In several cases, students who scored significantly above grade level on text reading scored poorly on ITBS.

It may be hypothesized that, while an inability to read grade level text can be a prediction of low scores on ITBS, low scores on ITBS cannot predict the inability to read grade level material. Other factors should be considered in low scores on standardized tests such as differences in text structure as well as an emphasis on discrete, isolated subskills rather than opportunities for the application of strategies using connected text.

Interestingly, children who scored well on text level and reading samples also tended to score well on writing samples. There did not, however, appear to be a relationship between the ability to read words in isolation and text reading. This may not be surprising since one score reflects the ability to read words in context while the other is a measure of the ability to read words in isolation.

Implications for Educators

The findings of this study have some important implications for reading instruction. These implications are related both to the success of the Reading Recovery Program as well as what we may learn in terms of this success in relation to the instructional practices of teachers.

The first implication is the positive effect the Reading Recovery Program has been shown to have on the literacy development of students at risk of failure. It has been demonstrated that the majority of children can be prevented from falling considerably behind their peers in literacy development and from experiencing failure (Hiebert & Taylor, 1994; Slavin & Madden, 1989; Stanovich, 1986). It has clearly been established that unless intervention occurs in the early stages of experiencing failure, a continuing cycle of failure can be assured. According to Slavin et al, (1991), "Success in the early grades does not guarantee success throughout the school years and beyond, but failure in the early grades does virtually guarantee failure in later schooling" (p 11).

One-to-one tutoring is considered to be the most effective strategy for preventing early school failure (Slavin et al., 1989; Wasik & Slavin, 1993). Reading Recovery is a one-to-one program which has shown promising results and has been described as a "pound of prevention" (Manzo & Manzo, 1995, p. 432).

Reading Recovery has been shown to be effective in breaking this cycle of failure. Although the RR group was determined to have the lowest literacy profiles in grade 1, the results of this study show that they were able to maintain a literacy level at or above a second grade level and that this level met or surpassed that of their second grade peers.

According to Rasinski (1995)

> Reading Recovery offers one of the most promising approaches to corrective instruction available. Its attempt to provide appropriate corrective instruction at the earliest possible time in students' lives, its dedication to thorough and ongoing teacher training and support, and its reliance on proven and appropriate types of instruction make it the state of the art in corrective instruction for elementary students in reading (p. 270).

A second implication of this study should be considered in relation to the success of Reading Recovery. Quality instruction in the early grades should be viewed as the key to preventing early school failure (Clay, 1985, 1993a, 1993b; Hiebert & Taylor, 1994). By offering good early literacy experiences to all children, we are providing opportunities to get them off to a good start. This implies careful consideration in providing an exemplary curriculum for literacy learning based on our current understanding of literacy development.

The success of Reading Recovery should result in careful reflection upon aspects of the program which may have implications for teachers in the regular classroom. The instructional components have already been applied to middle school (Lee & Neal, 1993) and high school settings (Ballash, 1994). Aspects of training may be applied to regular classroom teachers in supporting students who discontinue from the Reading Recovery Program as well as those who have not shown a need for support outside the regular program.

Anderson and Armbruster (1990) have examined the Reading Recovery Program in this way in order to identify several

maxims for instruction which can be related to the classroom. Although a critical component which relates to the success of Reading Recovery is the one-to-one nature of the program, several components may be applied to classroom instruction. Although the same theoretical base may be applied to group instruction, the instruction must be technically different than Reading Recovery (Pinnell et al., 1994; Pinnell & McCarrier, 1990). It should also be emphasized, however, that children experiencing failure in the early grades need the intensive one-to-one setting Reading Recovery offers.

One aspect of Reading Recovery which can be applied to classroom instruction is the active role students play in participation in literacy experiences. Throughout the Reading Recovery lesson, students are actively involved in authentic literacy events using connected texts. The teacher responds to the efforts of children during reading and writing in order to reinforce their efforts to independently problem-solve in the course of interactions with print. This active role cannot take place when the focus of instruction is worksheet tasks in isolation (Fields et al., 1991; Harste, 1989, 1990; Harste & Woodward, 1989; Harste et al., 1984; Hiebert & Taylor, 1994; McGill-Franzen, 1992).

When the focus of instruction is on meaningful literacy tasks, children learn about patterns and rules which can be applied to other tasks. Immersion in authentic and purposeful reading and writing experiences using literature implies that readers will "reinvent literacy for themselves

given rich experiences, opportunities, and a supportive, more knowledgeable other" (Pinnell et al., 1994).

A second aspect of Reading Recovery which provides insight in classroom literacy instruction is the focus on learning effective strategies during involvement in these authentic literacy tasks. According to Clay (1985), good readers use an effective range of strategies in interacting with print while poor readers tend to use a limited range. Further, poor readers tend to discard strategies which may not have proven successful.

According to Clay (1993a), "when one is having difficulty with a task, one tries several approaches. As each one fails, one ceases to try them. The struggling reader has stopped using many strategies because he could not make them work" (p. 14).

By working alongside children as they read, the teacher assumes a supportive role in reinforcing the child's use of strategies. This collaborative and supportive framework increases the likelihood that strategies will be used in future encounters. The teacher is then able to support children in selecting and applying a wide range of strategy options during problem-solving.

If children are enthusiastically supported and reinforced as they apply strategies, they will begin to try some which may have been previously discarded. The teacher can then "unleash those discarded approaches this child has ceased to use on the text" (Clay, 1993a, p. 14).

An instructional program which emphasizes the use of strategies while interacting with connected texts is one which assists learners in establishing a self-extending system so that they increase the ability to read each time they read (Clay, 1979, 1985).

The early studies of Vygotsky (1978) have important implications for instruction. According to Vygotsky, cognitive development begins as a social process, usually with an adult model (intercognitive) and later occurs on an individual level, inside the child (intracognitive). As the teacher works alongside the child in Reading Recovery, they are working in the child's zone of proximal development. With adult support, the child is able to complete tasks he/she would be unable to complete independently. This support is referred to as scaffolding (Clay, 1985; Wood, Bruner & Ross, 1976) or bootstrapping (Stanovich, 1986).

One aspect of scaffolding in the Reading Recovery Program is the selection of increasingly difficult texts. Students are provided texts which are challenging enough to provide reading work, but not so challenging as to prove frustrating. Providing texts which are within this zone of proximal development alleviates the risk that students will discontinue strategies which may previously have proven unsuccessful.

Through supportive questions and statements, children are supported in their efforts to problem-solve during the course of reading: (e.g., *Does that make sense? Does that*

look right? What could you try? Get your mouth ready for that word.).

Through dialogue, the teacher reinforces attempts to independently problem-solve. This dialogue between the teacher and child plays a critical role in scaffolded instruction (Palincsar, 1986; Stone, 1989). Verbalization of strategies should also be encouraged as an effective method for increasing strategy use and independence (Clay, 1985; Hellekson & Feitler, 1994).

Scaffolding requires that the teacher is sensitive to the developing progress of each learner. This increases the likelihood that children will develop in-the-head strategies employed by good readers. A supportive other must be present to model the use of effective strategies and to reinforce children as they use strategies. In this way, the student gradually assumes responsibility for their own learning in a continually changing zone of proximal development. The modeling by the teacher is a critical feature as they can *see* strategies demonstrated (Harste, 1989).

Another feature of Reading Recovery which has direct implication for classroom instruction is related to teacher training. Gaffney & Anderson (1991) refer to the training of teachers as the second tier of scaffolding as teachers learn in the course of teaching students. As teachers are supported in the process of learning about teaching, this has an impact upon the teacher's developing understanding of literacy learning.

Although the level of teacher training may not be feasible for classroom instruction, the impact training has upon Reading Recovery teachers should reinforce the need for instructional support. This implies encouraging teachers to take risks in literacy instruction and should be a focus in teacher training (Anderson & Armbruster, 1990).

We have much to learn from the Reading Recovery Program. If aspects of the program can be successfully applied to children who have experienced early failure, this provides direct implication for improving classroom instruction, specifically in the early grades. If we are to keep the promise of literacy which can be afforded to all learners, such exemplary instructional components must be in place. This may be a first step in applying preventative measures before failure occurs.

Recommendations for Future Research

The results of this study have shown the effectiveness of Reading Recovery as an early intervention program in sustaining literacy gains made by at-risk readers during participation in the program. The Reading Recovery subjects were able to meet or surpass their peers on several literacy measures examined in this study.

It has been shown that reading failure, unlike many human conditions, does not result in spontaneous recovery (Clay, 1985, p. 10). Intervention programs whose focus is on one-to-one tutoring have been shown to be the most powerful

strategy for preventing early failure. This is particularly true in "structured models that use well-trained certified teachers as tutors" (Slavin, Karweit, & Madden, 1989). Continued research should attempt to identify aspects of instructional components which support readers in making literacy gains.

This study has raised some important questions about the acquisition of literacy in the early grades. It is recommended that future studies similarly address examining the progress of second grade students following discontinuation for an extended period of time. This will allow researchers to examine changing characteristics of readers in the early stages of "recovery" and to identify factors which may contribute to or restrict those changes.

Literacy measures in future studies should include a wide range of literacy tasks, including standardized measures, comprehension measures, and several reading and writing measures. Reading and writing measures should include both words in isolation as well as in a meaningful context.

It is recommended that both qualitative as well as quantitative data be considered in future studies such as perceptions of teachers, parents, and students and the careful examination and analysis of running records. Qualitative data will substantiate and support information gained using quantitative scores. This will allow researchers to determine not only *how* subjects perform, but

to gain possible answers to the question *why?* Perhaps the second question is the most critical in terms of application to classroom instruction.

Clearly, a critical aspect of early literacy is providing early intervention programs which decrease the likelihood of failure for those at risk. Reading Recovery has been shown to be such a program. We must take caution, however, to suggest that any intervention strategy will provide a 'magic cure' for literacy failure. There are numerous factors to consider, including home literacy experiences and providing early classroom experiences which decrease the need for such programs.

Clay (1993b) suggests that Reading Recovery offers an exciting exploration of the question, "what is possible when we change the design and delivery of traditional education for the children that teachers find hard to teach?" (p. 97)

Perhaps an equally critical question should address how these changes can be applied to classroom instruction. Schools can make a difference so that children become lifelong learners who "continue to learn while they read and write and, in the process become better readers and writers" (Huck & Pinnell, 1991).

Only when we address the possibilities of improving the early instruction we offer *all* children will children such as Jason be spared the loss of valuable time in their journey to become, finally, members of the literacy club. It is a membership which must be open to *all*.

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APPENDIXES

APPENDIX A

SECOND GRADE WRITING SAMPLE

Dictation Task
Second Grade

3 th r ee	3 b oy s	5 j u m p ed	3 o v er	1 a	4 l i tt le
5 s t r ea m	2 Th e	4 w a t er	3 w a s	4 v e r y	4 c o l d
3 a n d	4 th e i r	3 f ee t	3 g o t	7 d r i pp i n g	3 w e t

Th r ee b oy s j u m p ed o v er a l i tt le s t r ea m.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

Th e w a t er w a s v e r y c o l d a n d th e i r
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48

f ee t g o t d r i pp i n g w e t.
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64

APPENDIX B

READING RECOVERY TEXT LEVELS

READING RECOVERY TEXT LEVELS
Correspondence Between
Text Reading Levels and Grade Level

Text Level	Grade Level
1-4	Readiness
5-8	Preprimer
9-12	Primer
14-16	Grade 1
18-20	Grade 2
22-24	Grade 3
26	Grade 4
28	Grade 5
30	Grade 6
32	Grade 7
34	Grade 8

APPENDIX C

CALCULATION PROCEDURE FOR ACCURACY AND SELF-CORRECTION

CONVERSION TABLE

Error Rate	Percent Accuracy
1:200	99.5
1:100	99
1:50	98
1:35	97
1:25	96
1:20	95
1:17	94
1:14	93
1:12.5	92
1:11.75	91
1:10	90
1:9	89
1:8	87.5
1:7	85.5
1:6	83
1:5	80
1:4	75
1:3	66
1:2	50

ERROR RATE

$$\frac{\text{Running words}}{\text{Errors}} \quad \begin{matrix}(\text{RW}) \\ (\text{E})\end{matrix}$$

ACCURACY

$$100 - \frac{E}{RW} \times \frac{100}{1}$$

$$100 - \frac{15}{150} \times \frac{100}{1} = 90\%$$

SELF-CORRECTION RATE

$$\frac{E + SC}{SC} \qquad \frac{15 + 5}{5}$$

APPENDIX D

PARENT/TEACHER QUESTIONNAIRES

PARENT QUESTIONNAIRE
Dissertation Research
Mary C. Howard, M.Ed.

Student # _____ RR _____ CTL _____ Date_____

Initial Interview (10/93)

1. Describe your child's academic experiences prior to grade 2.

   Kindergarten

   Grade 1

2. To what do you attribute your child's progress or lack of progress?

3. What are your goals/concerns for your child in grade 2?

Background Information:

4. Does your child have a medical condition which may affect learning?

5. Has your child ever repeated a grade in school?

   _____ yes _____ no Grade? _____

6. Does your child like to read _____ yes _____ no

7. Does your child like to write? _____ yes _____ no

8. Do you read to your child? _____ yes _____ no

   How often?

   At what age did you begin?

9. How would you describe the reading interests of:

	avid reader	occasional reader	rarely
mother	_____	_____	_____
father	_____	_____	_____
siblings	_____	_____	_____
	_____	_____	_____

Final Interview (May 1994)

How do you feel about your child's progress in grade 2? Please explain.

Do you feel your child is prepared for grade 3? Please explain.

TEACHER QUESTIONNAIRE
Dissertation Research
Mary C. Howard, M.Ed.

Teacher # _____ Student # _____ Date _____

_____ District A _____ District B _____ RR _____ CTL

How would you rank _____ in reading:

O low O middle low O middle O high

1. How would you describe your reading and writing program? (whole language, literature-based, basal, phonics, etc.)

2. What are this student's areas of strength in reading and writing?

3. What are this student's areas of weakness in reading and writing?

4. Do you feel that this student will be successful in grade 2? Why or why not?

5. Please describe your teaching experience.

6. Please describe your educational background.

End of the Year:

Please describe this child's level of success in grade 2.

Please describe the level of success you expect this child to achieve in grade 3?

APPENDIX E

TEXAS WOMAN'S UNIVERSITY BOOKLIST

1993-1994 Basic Book List

for Reading Recovery® Teachers and Teacher Leaders

Texas Woman's University

This book list represents a combination of the basic lists from Texas Woman's University and The Ohio State University. Titles of all books included on the basic order lists from both universities are included. (TWU teacher leaders-in-training should note that they will receive only those on the TWU order list.)

This list does **not** include all titles that have been leveled for Reading Recovery. The comprehensive book list published by The Ohio State University is still available for districts that wish to purchase it for reference and for ordering purposes. It is under revision and will not be updated until 1995. Districts may choose to order books from the comprehensive list in addition to those on the basic list or as alternatives to those on the basic list.

The Book Committee is changing leadership and forming sub-committees to recommend titles for the revision in 1995. Until that time, Texas Woman's University will continue to provide a basic list to assist districts in ordering and to assist teachers in leveling their books.

Please note that this list is covered under the registered Reading Recovery trademark®.

Dated Summer, 1993

TITLE	LEVEL	AUTHOR OR SERIES	PUBLISHER
Arguments	18	Read-Alongs/Stage 4	Rigby
Baby Writer	18	Hall & Robinson	Around the World
Barrel of Gold, A	18	Story Box	Wright Group
Bear Shadow	18	Asch, Frank	Simon & Schuster
Best Nest, The	18	Story Box	Wright Group
Boy Who Cried Wolf, The	18	Bridwell, Norman	Scholastic
Bremen Town Musicians, The	18	Read-Alongs/Stage 4	Rigby
Buttonhole, The	18	Story Box	Wright Group
Cat in the Hat, The	18	Read-Alongs/Stage 4	Rigby
Catten, The	18	Reading Unlimited	Scott Foresman
Clever Hamburger	18	Galdone, Paul	Viking
Clever Mr. Brown	18	Lobel, Arnold	Harper & Row
Clifford, the Big Red Dog	18	Reading Unlimited	Scott Foresman
Drummer Hoff	18	Read-AlongsStage 4	Rigby
Elephant in the House, An	18	Story Box	Wright Group
Fast and Funny	18	Read-Alongs/Stage 3	Rigby
Frown, The	18	Traditional Tales 2	Rigby
Hamlet the Hamster	18	Carle	Putnam
House for a Mouse	18	Journeys	Canada/Ginn
I Was So Mad	18	Mayer	Golden
Imagine That	18	Story Box	Wright Group
Jack and the Beanstalk	18	Read Yourself	Ladybird
Little Bear	18	Minarik	Harper
Little Black, A Pony	18	Farley	Random
Little Blue and Little Yellow	18	Lionni	Astor
Little Chief	18	Hoff	Harper
Little Knight, The	18	Reading Systems	Scott Foresman
Little Red Hen, The	18	Galdone	Viking
Man Who Didn't Do His Dishes	18	Krasilovsky	Scholastic
Me Too	18	Mayer	Golden
Monster and the Magic Umbrella	18	Tadpole Monster	Bowmar
Morning Dance	18	Jellybeans	Wright Group
Mrs. Higgins and Her Hen Hannah	18	Dabcovich	Dutton
My Cat Likes to Hide in Boxes	18	Dutton	Penguin
Out in the Big Wild World	18	Jellybeans	Wright Group
Owl at Home	18	Lobel	Harper
Popcorn Book, The	18	Reading Unlimited	Scott Foresman
Rain Puddle, The	18	Hall	Lothrop
Sam and the Firefly	18	Eastman	Random
Sam Who Never Forgets	18	Rice	Greenwillow
Slim, Shorty, and the Mules	18	Reading Unlimited	Scott Foresman
Small Pig	18	Story Box	Story Box
Smile, The	18	Read-Alongs/Stage 4	Read-Alongs/Stage 4
Snow White and Rose Red	18	Well Loved	Ladybird
Terrible Fright, A	18	Story Box	Wright Group

That's Really Weird	18	Read-Alongs/Stage 3	Rigby
Tom and Sam	18	Hutchins	Penguin
Too Much Noise	18	McGovern	Scholastic
Ugly Duckling, The	18	Rigby Folktales	Rigby
Very Hungry Caterpillar, The	18	Carle	Putnam
When I Get Bigger	18	Mayer	Western
Where is My Spider?	18	Story Box	Wright Group
Abracadabra	19	Reading Unlimited	Scott Foresman
Adventures of a Kite, The	19	Jellybeans	Wright Group
Angus and Wagtail	19	Bess	Penguin
Apple Tree, The	19	Rendel	Dodd
Bad Day for Benjamin	19	Reading Systems	Scott Foresman
Boy Who Wouldn't Say His Name	19	Vreeken	Follett
Captain Bumble	19	Story Box	Wright Group
Cat Called Kite, A	19	Read By Reading	Scholastic
Cat on the Roof	19	Story Box	Wright Group
Cinderella	19	Once Upon a Time	Wright Group
Day in Town, A	19	Story Box	Wright Group
Egg, The	19	Logan	Cypress
Father Bear Comes Home	19	Minarik	Minarik
Fox and the Little Red Hen, The	19	Traditional Tales	Rigby
Frog and Toad are Friends	19	Lobel	Harper
Frog and Toad Together	19	Lobel	Harper
Goldilocks and the Three Bears	19	Once Upon a Time	Wright Group
Jack and the Beanstalk	19	Wiesner	Scholastic
Jeanne Marie Counts Her Sheep	19	Francoise	Scribner
King, the Mice, and the Cheese	19	Gurney	Random
Mog at the Zoo	19	Nicoll	Penguin
Mog's Mumps	19	Nicoll	Penguin
Monster Goes to the Museum	19	Tadpole Monster	Bowmar
Mr. Gumpy's Motor Car	19	Burningham	Penguin
Mr. Gumpy's Outing	19	Burningham	Penguin
Mr Magee Came Home For Tea	19	Read By Reading	Scholastic
Mystery Seeds	19	Reading Unlimited	Scott Foresman
Pied Piper	19	Read Yourself	Ladybird
Piggie	19	Bonsall	Harper
Rescue, The	19	Ready to Read	Richard Owen
Six Foolish Fishermen	19	Elkin	Scholastic
Strike Me Down with a String Bean	19	Read-Alongs/Stage 4	Rigby
Summer	19	Low	Random
Sunflower That Went Flop, The	19	Story Box	Wright Group
Surprise Party, The	19	Hutchins	Penguin
That's Good, That's Bad	19	Journeys	Canada/Ginn
Thunder Eats a Haystack	19	Logan	Cypress
Thunder Goes to a Party	19	Logan	Cypress
Three Billy Goats Gruff	19	Stevens	Harcourt Brace Jov

Three Little Pigs, The	19	Once Upon a Time	Wright Group
Walk with Grandpa, A	19	Read-AlongsStage 3	Rigby
What Next Baby Bear!	19	Murphy	Dial
When Tony Got Lost at the Zoo	19	City Kids	Cypress
Wizard of Oz	19	Read Yourself	Ladybird
Wolf & the Seven Little Kids, The	19	Well Loved	Ladybird
A is an Apple	20	Windmill	Wright Group
Bear's Christmas, The	20	Berenstain	Random
Bear's Picnic, The	20	Berenstain	Random
Berenstain Bears & the Missing...	20	Berenstain	Random
Big-City Book, The	20	Reading Systems	Scott Foresman
Black Mountain	20	Reading Unlimited	Scott Foresman
Blossom Bird Goes South	20	Paul	Modern Curriculum
Bubbling Crocodile, The	20	Ready to Read	Richard Owen
Cake, The	20	Jellbeans	Wright Group
Chicken Little	20	Traditional Tales 1	Rigby
Chicken Soup with Rice	20	Sendak	Scholastic
Circus Book, The	20	Reading Unlimited	Scott Foresman
Crocodile in the Library, A	20	Ready to Read	Puffin
Don't Forget the Bacon	20	Hutchins	Wright Group
Earthquake, The	20	Jellybeans	Wright Group
Great Grumbler & the Wonder Tree	20	Ready to Read	Richard Owen
Henry's Choice	20	Reading Unlimited	Scott Foresman
Horrakapotchkin!	20	Ready to Read	Richard Owen
Lavender the Library Cat	20	Read-Alongs/Stage 4	Rigby
Lizards and Salamanders	20	Reading Unlimited	Scott Foresman
Maui and the Sun	20	Ready to Read	Richard Owen
Miss Nelson is Missing	20	Allard	Houghton Mifflin
Nana's in the Plum Tree	20	Ready to Read	Richard Owen
Red and Blue Mittens	20	Reading Unlimited	Scott Foresman
Rumpelstiltskin	20	Once Upon a Time	Wright Group
What a Funny Thing to Do!	20	Hall & Robinson	Around the World

APPENDIX F

PARENT/TEACHER LETTERS

Dear Parents,

I am pursuing a doctorate degree at Oklahoma State University in the area of Reading. I am currently conducting a study to examine the effectiveness of the Reading Recovery Program, an early intervention program for first graders. I would like to follow the progress of students in the district who successfully completed the program during the 1992-93 school year. I would also like to review the literacy success of children who did not participate in the program to serve as a comparison.

Your child has been randomly selected to participate in this study. I would like your permission to follow the progress of your child during the 1993-94 school year. If you agree to allow your child to participate in this study, you will give me permission to do the following:

- conduct two phone interviews (Sept 1993/May 1994)
- interview your child's second grade teacher (Sept 1993/May 1994)
- visit your child four times during the year to collect literacy samples
    a. October 1993 (one hour)
    b. January 1994 (twenty minutes)
    c. March 1994 (twenty minutes)
    d. May 1994 (one hour)
- review your child's second grade district ITBS scores (May 1994)

In return, I will agree to be available for questions regarding this study and to share the results of my findings with you. I will be happy to assist you in any way in sharing insights of your child's reading and writing development based on these findings.

It is my hope that you will agree to allow your child to participate in this study. The Reading Recovery program has been found to be invaluable in assisting young children who experience early difficulty in reading and writing to become successful readers and writers. Your child's participation will greatly enhance this study, providing valuable information. Due to your rights of confidentiality, all data collected concerning your child will be used for the sole purpose of this study. The names of children, parents, and teachers will not be used in the research at any time.

I welcome your questions, concerns, and insight regarding your child's involvement in this study. You may call me at (918) 743-6580. I would like to assure you that the time requirements will be minimal and will not affect classroom instruction in any way.

Very sincerely,

Mary Howard, M.Ed.

Dear Grade 2 Teacher,

I am a doctoral student at Oklahoma State University pursuing a degree with an emphasis in reading. I am currently conducting my dissertation research in the area of Reading Recovery. As a trained Reading Recovery teacher, I am very interested in examining the success of children who discontinue this program. I have been given permission to conduct my research in your district.

I have identified two groups for the purpose of this study. The Reading Recovery group is composed of students who participated in the Reading Recovery Program during grade 1 and successfully discontinued by the end of the 1992-93 school year. The Control group is composed of students who did not participate in an early intervention program in grade 1. They will represent the average range of literacy development.

_____ has been selected to participate in this study. I would like to follow the progress of this student during the 1993-94 school year. In order to do this, I need your assistance. Your involvement in this study will include:

- schedule an introductory session to discuss the study (September 1993)
- complete a questionnaire September 1993 and May 1994
- allow me to schedule four data collection visits
    a. October 1993 (one hour)
    b. January 1994 (twenty minutes)
    c. March1994 (twenty minutes)
    d. May 1994 (one hour)

In return, I will share information regarding literacy data at your request. This will provide you with additional information regarding this student. I will be available to answer questions as needed. Confidentiality will be maintained in the collection of data. The names of students and teachers will not be used at any time in this study.

Because I have been an educator for twenty-one years, I am well aware how valuable your classroom time is. I can assure you that I will take every precaution not to interfere in any way with your instructional program or class schedule. I will arrange visits with you which will minimize interference. Your participation in this study will be invaluable. The information provided by this research will present evidence of the effectiveness of the Reading Recovery program in successful intervention for first graders at risk of failure. In addition, it will provide a comparison with students who are in the average range of literacy development.

I look forward to hearing from you regarding this project. You may contact me at (918) 743-6580 if you have any questions or concerns.

Very sincerely,

Mary Howard, M. Ed.

APPENDIX G

OKLAHOMA STATE UNIVERSITY

INSTITUTIONAL REVIEW BOARD FOR

HUMAN SUBJECTS RESEARCH FORM

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD
FOR HUMAN SUBJECTS RESEARCH

Date: 10-06-93 **IRB#:** ED-94-022

Proposal Title: THE EXAMINATION OF THE EFFECTIVENESS OF THE READING RECOVERY PROGRAM ON SECOND GRADE READERS

Principal Investigator(s): Kouider Mokhtari, Mary Howard

Reviewed and Processed as: Exempt

Approval Status Recommended by Reviewer(s): Approved

APPROVAL STATUS SUBJECT TO REVIEW BY FULL INSTITUTIONAL REVIEW BOARD AT NEXT MEETING.
APPROVAL STATUS PERIOD VALID FOR ONE CALENDAR YEAR AFTER WHICH A CONTINUATION OR RENEWAL REQUEST IS REQUIRED TO BE SUBMITTED FOR BOARD APPROVAL. ANY MODIFICATIONS TO APPROVED PROJECT MUST ALSO BE SUBMITTED FOR APPROVAL.

Comments, Modifications/Conditions for Approval or Reasons for Deferral or Disapproval are as follows:

Signature: _____ Date: October 8, 1993
Chair of Institutional Review Board

APPENDIX H

CONSENT FORM

CONSENT FORM

I, _____, hereby authorize or direct Mary Howard to perform the tasks described in the attached letter.

This study is being conducted as part of an investigation entitled A Comparative Study of the Reading Proficiency of Discontinued Reading Recovery Students with their Second Grade Peers. The purpose of this study is to determine the effectiveness of the Reading Recovery Program as an early intervention program for first grade students at risk of failure in reading and writing. Further, this study will compare students who have participated in the Reading Recovery Program with students who did not participate in the program and are currently within the average instructional range in second grade.

I understand that participation is voluntary, that there is no penalty for refusal to participate, and that I am free to withhold my consent and participation in this project at any time without penalty after notifying the project investigator.

Mary Howard may be contacted regarding questions concerning this study at telephone number (918) 743-6580 or University Research Services, 001 Life Sciences East, Oklahoma State University, Stillwater, Oklahoma 74078, telephone number (405) 744-5700.

I have read and fully understand the consent form. I sign it freely and voluntarily. A copy has been given to me.

Date_____ Time _____ (am/pm)

_____
Parent/Guardian

I certify that I have personally explained all elements of this form to the subjects or his/her representative before requesting the subject or his/her representative to sign it.

_____
Mary Howard, Project Investigator

VITA

Mary Howard

Candidate for the Degree of

Doctor of Education

Thesis: A COMPARATIVE STUDY OF THE READING PROFICIENCY OF DISCONTINUED READING RECOVERY STUDENTS WITH THEIR SECOND GRADE PEERS

Major Field: Curriculum and Instruction

Biographical:

Personal Data: Born in Montgomery, Alabama, February 7, 1950, the daughter of James and Sue Howard.

Education: Graduated from South Dade High School, Homestead, Florida in May 1968; received Bachelor of Science degree in Special Education from University of Tulsa, Tulsa, Oklahoma in July 1972; received Master of Education degree in Special Education from Wright State University, Dayton, Ohio in June 1976. Completed the requirements for the Doctor of Education degree with a major in Curriculum and Instruction at Oklahoma State University in December 1995.

Professional Experience: Employed by East Newton R-6 County RSD 6 as a Special Education Teacher; Dayton Public Schools as a Special Education Teacher; San Antonio Independent School District as a Special Education Teacher; Richardson Independent School District as a Special Education and Learner Support/Reading Recovery Teacher; Ponca City School District as a Reading Consultant; Tulsa Junior College as an Adjunct Instructor; Oklahoma State University as a Graduate Teaching Assistant; Bureau of Education and Research as a Lecturer/Consultant.

Professional Memberships: International Reading Association, National Reading Association, Phi Delta Kappa, Reading Recovery Council of North America.