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A Longitudinal Case Study of a Literacy Program titled Reading Recovery for Students in a Struggling Midwestern School District

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by

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Declaration of Originality

I do hereby declare and attest to the fact that this is an original study based solely upon my own scholarly work here at Lindenwood University and that I have not submitted it for any other college or university course or degree here or elsewhere.

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Abstract

This study followed a cohort of students from Grade 1 to Grade 11 in one struggling school district that had Reading Recovery (RR) in the Grade 1. The RR program is an intervention given only to students in the Grade 1 who are reading below grade level on the Gates-MacGinitie Reading Assessment. The researched district had a high poverty, high mobility, and high minority population of students. One hundred and seventy-three students participated in the RR program for 12 to 20 weeks while they were in Grade 1. Studies have shown that these students are able to retain their grade level reading ability and are more likely to graduate. For this study, the following data were gathered: Missouri Assessment Program communication arts data, pre and post Gates-MacGinitie Reading Assessment scores, end of course high school exam scores, English grades, and enrollment in high school English courses. Unfortunately, only 24 students from the original cohort were still in the district in the Grade 11, and some of these students had incomplete data sets. This demonstrated the difficultly in evaluating the success of programs in a struggling district with a high mobility rate. Thus, this study is mostly descriptive, analyzing the implementation of RR and presenting the district as a case study. A single factor ANOVA determined there is no difference between the averages for the RR sample compared to the average of the total school population. Results indicated that students who participated in RR in the Grade 1 remained on an average level throughout their junior year in high school. Recommendations for future research include a larger sample size, although this is difficult with highly mobile student populations, and a comparison group with similar demographics. Practitioners should

consider the importance of RR training for all teachers in the building or a supplementary program to provide continuing support for students throughout their academic career. Although RR has shown tremendous success in previous studies, evaluating the long term impact of the program was difficult to determine.

Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction

Early literacy intervention is a program designed for students who face failure in the first years of school. This intervention provides the opportunity for literacy deficient individuals to catch up to their peers (National Dropout Prevention Center/Network, 2010a). Learning to read is one of the top priorities in elementary education. Elementary schools will ultimately be successful only if their students are proficient in reading (Fountas & Pinnell, 1996; Boyer, 1995).

Background of the Study

The expectations for students have risen due to public awareness. As the years go by, the literacy demands on students have increased. A simple signature was sufficient to show literacy in the early 1900s (Green & Dixon, 1996). A benchmark for literacy was simply memorizing the Bible. Later, literal comprehension was a mark for literacy for immigrants to be able to decode text. However, limitations for literal comprehension will include societal demands needing proficient and advanced readers for demanding jobs (Green & Dixon, 1996). To ensure success, society demands that reading abilities and reading skills must be attended to early with high premiums. The McClendon-Woods School's system measures reading success based on standardized testing, lacking a public consensus on the definition of reading. Children should experience a variety of literacy practices in order to become successful readers (Arnold & Colburn, 2006).

To help struggling readers, many school systems place students who are unsuccessful in kindergarten into a developmental Grade 1 requiring them to spend an additional year in school before entering regular Grade 1. Children who attend

kindergarten learn the basic skills in reading, writing, math, social studies, socialization skills, and much more. There is a disproportionate share of retention in kindergarten and primary grades often because of reading skills. Okpala (2007) conducted a kindergarten study with 37 kindergarten teachers in North Carolina public schools who found it necessary to use reading intervention tools during instruction. Okpala's study reported that high percentages in the areas of academic ability, attendance, social, and emotional skills were some of the major reasons for kindergarten retention. One view of retention is that it would be difficult to find another educational practice on which the evidence is clearly negative (Southern Regional Education Board, 1994). This practice does not produce students ready to read but instead increased their risk of being a school dropout.

Unlike Okpala's (2007) study in North Carolina, the McClendon-Woods School District provided an additional intervention program in Grade 1 called Reading Recovery (RR), which is a reading program that prevents reading failures for students entering Grade 1 (Lyons, 2003). The abbreviation RR will be used throughout this dissertation in place of the title Reading Recovery. There is an appraisal of students beginning in Grade 1 to locate children making the least progress so they can be offered a supplementary program. The RR program shows a high success rate of students catching up to their peers (Pressley, 1998). In order to do this in an accelerated fashion, approximately 20 weeks, the program assumes a preparation year of rich literate activities to precede the Grade 1 appraisal. It is important that this literacy assumption be in place for the most at-risk students (National Dropout Prevention Center/Network, 2010a).

The RR program was implemented in the McClendon-Woods School District during the fall of 1997. The purpose of implementing RR as an early intervention was to increase reading scores and retention rates for Grade 1rs and beyond. First and Grade 2 teachers were surveyed by district leaders about the effectiveness of reading instruction for students who were below grade level. The survey had a high percentage of teachers noting that they did not have enough classroom instruction support for the lowest achieving students in their classroom. Therefore, the districts' curriculum and instruction advisory team began to research different early literacy programs to best fulfill the needs of the student population.

Statement of Problem

There is a high number of high school students leaving elementary and middle school reading below grade level. Problems occur in the school system with transference of literacy skills to other grade levels, common language (reading), proper professional development, and instructional leadership support. This study examined the problem of retaining reading proficiency over time. The purpose of this study was to examine the research based program titled RR and the long-term effects on students.

While RR was well researched when it was created, much of the research is from the 1990s, prior to the implementation of No Child Left Behind. The No Child Left Behind Act requires students to read at or above grade level within a specific timeline. This act is in fact putting pressure on administrators, students, and most of all classroom teachers to rigorously instruct students to meet state requirements and guidelines. The RR program is designed to service the lowest of the low readers, generally students in

Grade 1. This intervention requires classroom teachers and reading specialists to service one student at a time versus whole group and small group instruction. The purpose of the RR program is to bring the lowest level readers to the average reading level of the class.

Purpose of Study

Kindergarten helps prepare children for Grade 1 and beyond (How Important is Kindergarten, n.d.). In the McClendon-Woods school district, which is the focus of this study, kindergarten students are taken through several processes that involve reading intervention programs before they are retained. The students are evaluated by the school's counselor to determine the students' reading ability and IQ level, and strategies are brainstormed in weekly grade level team meetings with a group of kindergarten teachers. According to data collected from classroom teachers, counselor's evaluation, and standardized assessments, a decision is made whether to retain or promote the student to the next grade level. If the teacher, parents, counselor, and principal feel that the student may be immature but can move and be successful in the next grade, the student will be promoted and receive intervention from the reading specialist in the RR program.

The RR program is an intervention designed to service the lowest of the low students in the classroom. Students usually receive one-on-one tutoring from RR trained teachers or Reading Specialist. The one-on-one tutoring sessions last approximately 30 minutes for each child. The lessons include the following components: phonics, phonemic awareness, vocabulary development, fluency (re-reading previous books), and writing. The RR teachers are required to receive and participate in ongoing training to receive up-to-date information on recent changes in the program. The RR teachers are

trained by teacher leaders who have received training from faculty members in an established university training center or regional Canadian Center (Clay, 1993b).

The purpose of this study was to determine if students who experienced RR were able to improve or maintain their reading achievement. The McClendon-Woods School District was an ideal place for this research because the district has a high enrollment of Grade 1 students reading below grade level.

This study examined longitudinal data to determine if students who experienced the RR program were more successful on assessments all the way through high school. The researcher compared reading performance measured by the Gates-MacGinitie Reading Assessment and MAP communication arts scores from Grades 5, 8, and 11. The Gates-MacGinitie Reading Assessment is a commonly used measure to assess phonics, phonemic awareness, vocabulary, and comprehension for grades K-12 (W. MacGinitie, R. MacGinitie, Maria, Dreyer, & Hughes, 2006).

According to the What Works Clearinghouse (2007), one-on-one tutoring is an effective short-term intervention for Grade 1 students reading below grade level. Along with interventions, good classroom teaching is most effective when available to all students who are in need (Torgesen, Houston, Rissman, & Kosanovich, 2007). However, RR is only offered to students in Grade 1 who are the lowest of the low readers in the school population. Wilson and Daviss (1994) indicated RR students did well on standardized tests as they progressed through elementary grade levels. These students were also able to maintain their gains throughout their educational experience (Wilson & Daviss, 1994). However, this research has not been replicated in recent years.

Barnett (1995) examined the longitudinal impact of preschool programs for children from families in poverty and determined that "Children who go to high quality preschools are less likely to be retained in kindergarten through grade three, have higher graduation rates from high school, and have less behavior problems" (p. 36). This study reviewed 36 model interventions and large public school programs. Although this research was done 15 years ago, it found RR to be effective. This study attempts to compare these findings to a similar study in a struggling school district today. If RR can prevent students from dropping out, the long-term potential benefits must be considered along with any short term gains. Use of RR in Grade 1 could help students achieve in later grade levels.

According to National Center for Education Statistics, (2010), students dropping out of school is not only a problem in poor rural communities but in low income suburban and urban communities as well. About 20% of all students drop out of school in the United States (National Center for Education Statistics, 2010). "This represents close to 40 percent of students in the nation's lowest socioeconomic group but also 10 percent of young people from families in the highest two socioeconomic status levels" (National Center for Education Statistics, 2003). While the dropout rates for minority and white students are equal, according to National Center for Education Statistics, (2010), minority students are more likely to be from a family in poverty, thus the statistics are skewed. In 2001, 68% was the national graduation rate for high school seniors (Greene, 2001).

> When the figures are broken down by ethnicity and race, the numbers become more disturbing. Approximately 76.8 percent of Asian students and 74.9 percent of Caucasian students finish high school. These figures drop to 53.2 percent for Hispanic students, 51.1 percent for Native American students, and 50.2 percent African-American students. (D. Shriberg & A. B. Shriberg, 2006, p. 72)

For Grade 4 and beyond, the achievement gap in reading scores among racial and ethnic groups continue to grow each school year (Bruce, Getch, & Ziomek-Daugke, 2009). Students of diverse cultural and language backgrounds still have challenges to overcome in order to be successful readers. According to National Assessment of Educational Progress (NAEP, 2010) data, the ethnic groups in Grade 8 scored higher in reading, but the gaps between White students, African American and Hispanic peers were significantly different in 2007 (para. 2). In Grade 4, there were no significant changes in scores across racial categories between 2007 and 2009 (NAEP, 2010). The achievement gap in reading between Hispanic Grade 4 students and Caucasian Grade 4 students has broadened since 1992 from 7% to 20% in 2009, while the achievement gap between African American Grade 4 students and Caucasian Grade 4 students has narrowed from about 73% to about 56%, with similar statistics for Grade 8 students (NAEP, 2010).

Other factors that may impact the achievement gap include an increase in students with low parent income which contributes to low educational resources in the home, and a broken family structure with an unstable environment. School related issues would include low teacher and administrator expectations that can possibly lead to students having low academic expectations. Socio-cultural causes play a factor in students'

achievement. Some minority students perceive that society views them as being less capable and expects very little of them. Often these students do not try in school, because of feelings of not being successful. In 2008, 14.1 million children were from families earning below the national poverty level (NAEP, 2010). The poverty rate varies, "with nearly 34% of black children and 31% of Hispanic children considered poor by government standards," according to the National Poverty Center at the University of Michigan's Gerald R. Ford School of Public Policy (2010, para. 2). The Hispanic, Caucasian, and African American demographic data was taken from a sample of 178,800 students in Grade 4 from 9,530 schools and 160,900 students across the United States, the District of Columbia, and the Department of Defense schools (NAEP, 2010).

Research Question and Hypotheses

The research question was, Is there a difference over time in reading/communication arts standardized test scores when comparing measures for students who experienced RR in Grade 1 and their peers who did not?

The hypotheses were as follows:

Alternative Hypothesis # 1: There will be a difference in reading growth achieved by students who formerly participated in the Reading Recovery Program when comparing the average change in total reading scores earned by students from Grade 5 to Grade 6, Grade 5 to Grade 8, and Grade 5 to Grade 12, as measured by the Gates-Macginitie Reading Inventory.

Alternative Hypothesis # 2: There will be a difference in reading growth achieved by students who formerly participated in the Reading Recovery Program when

comparing the percentile rank of total reading scores earned by students from Grade 5 to Grade 6, Grade 5 to Grade 8, and Grade 5 to Grade 12, as measured by the Gates-Macginitie Reading Inventory.

Alternative Hypothesis # 3: There will be a difference in reading growth achieved by students who formerly participated in the Reading Recovery Program when comparing the average change in Grade Equivalency earned by students from Grade 5 to Grade 6, Grade 5 to Grade 8, and Grade 5 to Grade 12, as measured by the Gates-Macginitie Reading Inventory.

Alternative Hypothesis # 4: There will be a difference in academic achievement by students who formerly participated in the Reading Recovery Program when comparing the average raw score in communication arts earned by students for the years 2005 - 2007, as measured by the Missouri Assessment Program exam.

Alternative Hypothesis # 5: There will be a difference in summer loss of reading ability exhibited by students who formerly participated in the Reading Recovery Program when comparing the average change in Grade Equivalency in reading across each summer, as measured by the Gates-MacGinitie Reading Inventory. (For example: Grade 5 moving into Grade 6; Grade 6 moving into Grade 7; etc.)

Alternative Hypothesis # 6: For each individual grade level (Grades 5 through 11), there will be a difference in reading ability, as measured by total score on the Gates-MacGinitie Reading Inventory, when comparing students who formerly participated in the Reading Recovery Program to students in the general population.

Alternative Hypothesis # 7: For each individual grade level (5 through 11), there will be a difference in reading growth, as measured by percentile rank in total score on the Gates-MacGinitie Reading Inventory, when comparing students who formerly participated in the Reading Recovery Program to students in the general population.

Alternative Hypothesis # 8: For each individual grade level (5 through 11), there will be a difference in reading ability, as measured by grade equivalency for reading levels on the Gates-MacGinitie Reading Inventory, when comparing students who formerly participated in the Reading Recovery Program to students in the general population.

Null Hypothesis # 1: There will be no difference in reading growth achieved by students who formerly participated in the Reading Recovery Program when comparing the average change in total reading scores earned by students from Grade 5 to Grade 6, Grade 5 to Grade 8, and Grade 5 to Grade 12, as measured by the Gates-MacGinitie Reading Inventory.

Null Hypothesis # 2: There will be no difference in reading growth achieved by students who formerly participated in the Reading Recovery Program when comparing the percentile rank of total reading scores earned by students from Grade 5 to Grade 6, Grade 5 to Grade 8, and Grade 5 to Grade 12, as measured by the Gates-Macginitie Reading Inventory.

Null Hypothesis # 3: There will be no difference in reading growth achieved by students who formerly participated in the Reading Recovery Program when comparing the

average change in Grade Equivalency earned by students from Grade 5 to Grade 6, Grade 5 to Grade 8, and Grade 5 to Grade 12, as measured by the Gates-Macginitie Reading Inventory.

Null Hypothesis # 4: There will be no difference in academic achievement by students who formerly participated in the Reading Recovery Program when comparing the average raw score in communication arts earned by students for the years 2005 - 2007, as measured by the Missouri Assessment Program exam.

Null Hypothesis # 5: There will be no difference in summer loss of reading ability exhibited by students who formerly participated in the Reading Recovery Program when comparing the average change in Grade Equivalency in reading across each summer, as measured by the Gates-MacGinitie Reading Inventory. (For example: Grade 5 moving into Grade 6; Grade 6 moving into Grade 7; etc.)

Null Hypothesis # 6: For each individual grade level (5 through 11), there will be no difference in reading ability, as measured by total scores on the Gates-Macginitie Reading Inventory, when comparing students who formerly participated in the Reading Recovery Program to students in the general population.

Null Hypothesis # 7: For each individual grade level (5 through 11), there will be no difference in reading growth, as measured by percentile rank in total score on the Gates-MacGinitie Reading Inventory, when comparing students who formerly participated in the Reading Recovery Program to students in the general population.

Null Hypothesis # 8: For each individual grade level (5 through 11), there will be no

difference in reading ability, as measured by grade equivalency for reading levels on the Gates-MacGinitie Reading Inventory, when comparing students who formerly participated in the Reading Recovery Program to students in the general population.

Definitions of Terms

Basic Reading Inventory – An untimed, informal reading test that includes a series of grade level passages and a word list administered to students Grades K-12 to help teachers gather knowledge of reading behaviors. This assessment is not computerized, it simply allows the teacher to observe notable reading behaviors (Johns, 2005).

Comprehension – The ability to retell and understand what has been read (Fountas & Pinnell, 2001).

The Dynamic Indicators of Basic Early Literacy Skills (DIBELS) - measures used for assessing early literacy skills from Kindergarten through Grade 6. The assessments are computerized (handheld palm pilots) and take one minute per section to administer. The assessment information is then synchronized into the main computer system and teachers/administrators are able to look at students' progress electronically (Good & Kaminski, 2002).

Early Literacy - An intervention program or plan that takes place before Grade 1.

Fluency - The ability to read a text orally and silently quickly and accurately with appropriate expression (Ritchey, 2009).

Gates-MacGinitie Reading Test - A powerful tool utilized by educators nationally to help classroom teachers know their students level of reading achievement. The Gates assess student's vocabulary and comprehension skills. The test is multiple choice and timed for approximately 20-30 minutes for both sessions (MacGinitie et al., 2006).

Grade Equivalency – "A score reported on a norm-referenced test that allows educators and parents to compare students based on their performance to other students in the relative school year" (e.g., 5.8 is Grade 5 - eighth month) (MacGinitie et al., 2006).

Guided Reading – "Reading instruction in which the teacher provides the structure and purpose for reading and for responding to the material read during class reading" (Fountas & Pinnell, 1996, p. 1).

Informal Reading Inventory (IRI) - The use of a graded series of passages of increased difficulty to determine student's strengths, weaknesses, and strategies in word identification and comprehension in reading strategies. The IRI is not a timed test nor is it multiple choice, students are given plenty of time to read the passages and answer the comprehension questions to determine the level of reading difficulty or independency (Mariotti & Homan, 1997).

Phonemic Awareness - Is the ability to recognize and understand the sounds heard when speaking (Ritchey, 2009).

Phonics - Teaches students the relationship between letters and letter sounds during beginning reading instruction (Ritchey, 2009).

Scaffolding - Temporary support and intervention provided by a teacher and peers, that helps the learner to complete tasks they were unable to do alone (J. Vacca & R. Vacca, 2002).

Silent Passages - Passages that are read silently by students and then assessed by a set of comprehension questions relevant to selection read (Johns & Lenski, 2001).

Syllabication - The ability to use syllables to decode and pronounce words (J. Vacca & R. Vacca, 2002).

Word Recognition - The ability to recognize word combinations and patterns (Fountas & Pinnell, 1996).

Word Work - Is the ability to decode words using consonant and vowel patterns often used in Reading Recovery and guided reading activities (Fountas & Pinnell, 1996).

Limitations

Along with many advantages of this study, there are also some limitations. The cohort, who demonstrated a need for reading assistance, received the RR Intervention in Grade 1. The measure used to determine a need for reading intervention was the Gates-MacGinitie Reading Assessment. The cohort of students included Grade 1 students from 17 elementary schools who received the RR Intervention. In 1999, 173 students from the school district received the RR Intervention. Out of the 173 students, 24 students remained in the district through Grade 11 and of those 24 students, two had incomplete data sets. This study is limited by the small number of RR participants who remained in the district during their senior year. The convenience sample used for analysis does not yield results as strong as a study that could provide a random sample of data.

The instruments used to conduct this study were the student's RR data over a 10- year period, End of Course exam (communication arts), Missouri Assessment Program communication arts assessment data, Gates-MacGinitie Reading Test, and the school district's demographical data. The assessments used in this study are given once yearly. The researcher worked in the district of study, but was not employed in 1999. Standardized assessment data were utilized to reduce bias.

Summary

Reading is essential to students' academic success. The researcher investigated the effectiveness of a Grade 1 literacy intervention titled RR as it relates to retention of successful literacy over time. Chapter 2 is a review of the framing literature on the importance of early literacy and intervention, the success of early literacy intervention, and the best practices utilized for an early literacy intervention program.

Chapter 2: Review of Literature

The purpose of early literacy is to develop language, reading, and writing abilities. The research reviewed in this chapter is directly related to the impact of early literacy programs during Grade 1 and how it affects student achievement. The chapter is divided into three sections. The first section discusses the purpose of early literacy and how it can create life-long readers. The second section focuses on what assessment tools are used to drive reading instruction. The third section explores the best practices for an early literacy intervention program such as RR.

The Purpose of Early Literacy

Early in life, reading success begins with books, language stimulation, and exposure to the world outside home. These indicators are possible predictors of a good reader. The ability to connect letters with sounds (alphabetic principles) is basic for early reading. Knowledge of letters and awareness of speech sounds in words known as phoneme awareness are also important for early reading. Before the child actually learns to read, these skills are all measurable factors to predict the child's success. Student's language skills are often weak if the student has not had concrete examples of how the English language is used. Language inabilities are becoming an issue in the classroom because of high stakes reading demands. Teachers have resorted to teaching what is on the state test. This limits their ability to focus on teaching the basic skills important to the reading process. Reading failure can even affect students in good preschools. Reading is the ingredient needed in order for students to have success in all academic areas. All academic areas require some form of reading. Those students with little language and

print awareness can be identified as soon as they begin attending school (Barnett, 1995). According to Zigler and Styfco (1994), "Preschool programs, such as Head Start, are not enough to immunize children against reading failure" (p. 52). When children have a high-quality preschool experience that incorporates language and literacy development, those skills help them excel throughout their schooling (Morrow, 2005). Barnett (1995) argued that, "children who go to high quality preschools are also less likely to be retained in kindergarten through Grade 3, have higher graduation rates from high school, and have less behavior problems" (p. 31).

Otaiba and Fuchs (2006) conducted research to identify the student characteristics of how they did and did not respond to early intervention literacy programs in the elementary school setting. Otaiba and Fuch concluded that the students who did not respond well to the reading program needed a secondary intervention. This intervention would ultimately require a combination of different strategies and methods to promote student success. In order to promote success, teachers will have to design lessons that focus on student's individual strengths and weaknesses.

National and state level academic standards are requiring all students to be at grade level in reading and writing. According to the No Child Left Behind Act (2002), all students, including subgroups, are required to score at or above the proficient level on state assessments by 2014; those assessments include reading comprehension and language arts. Yopp (1992) researched children from birth through age five to identify abilities to predict later achievement in literacy practices. "The abilities identified were oral language development, phonological development/phonemic awareness, alphabetic

knowledge, print knowledge, and invented spelling" (p. 699). A group of researchers found that early literacy development experiences are important when reading story books, discussing story elements, and writing (Bus, Van Ijzendoorn, & Pellegrini, 1995; Wells, 1985).

Children's literacy development is increased when they experience effective literacy practices (Klug, Turner, & Feurerborn, 2009). "Thus, preschools need to focus on a wide range of language and literacy experiences organized into the curriculum," (Morrow, 2005, p. 10). Kindergarten children enter school with some knowledge of language and literacy experiences. Teachers usually wonder about what type of language and literacy experience their students have encountered. Although most have had some form of language and literacy experience, many have not had experiences that may be useful in school. The more education a child's parents have acquired, the more likely the child is to be ready for school (National Center for Education Statistics (2001). As children progress through their educational career, those that started school without the important literary awareness may never catch up to their peers (Strickland, Snow, Griffin, Burns, & McNamara, 2002. According to McGill-Franzen, Lanford, and Adams (2002), "Preschool programs serving low-income populations put into practice a more limited view of what children can learn and provide little in the way of needed early literacy experience" (p. 448).

High school dropout early identification is essential to effective intervention. According to Holmes (2006), students tend to drop out during the last years of high school, but most are lost long before they get into high school. The dropout problem

should not only be limited to middle school or high school levels; by then, it is too late for some students. In some cases, they have literally dropped out in Grade 4 where academic concepts have become more difficult.

Retention

According to longitudinal studies by Juel and Leavell (1988), chances are close to 90% that a child who is a poor reader at the end of Grade 1 and is retained will remain a poor reader at the end of Grade 4. Many children who have been a product of retention sometimes experience a negative self-concept as a result of academic failure. National Center for Education Statistics (2003) research found that retention greatly increases the chances of dropping out of school. Retention does not improve students' performance in subsequent years; in fact, it may have a negative effect (Holmes, 2006). Retention may also have serious negative effects on self-perception and self-confidence (Shepard & Smith, 1989).

Pikulski (1994) and Wasik and Slavin (1993) research findings suggest that children who have reading problems can be helped if they receive early literacy intervention in the early stages of the reading process. The U.S. Department of Education's Institute of Educational Sciences (2003) argued that there is little scientific evidence that says, "one-on-one tutoring by qualified tutors of at-risk readers in 1^{st}-3^{rd} grade is effective" (p. iii). Some researchers such as Lyons and Beaver (1995) wrote that when reading intervention is received early, the rate of students being labeled as reading disabled with possibilities of continual remediation will decrease. Lyons and Beaver (1995) found that schools with early literacy programs had fewer retentions and special

school district referrals. According to the National Dropout Prevention Center/Network (2010 b), the number of high school students dropping out of school went down when their schools adopted early literacy programs.

Assessments in Early Literacy that Drive Instruction

Reading problems nationally affect almost half the population of students in grade school and beyond (National Center for Education Statistics, 2003). Some school and district rates of reading failure are as high as 70% (National Center for Education Statistics, 2003). These reading challenges make it harder for students and make the chances for having a successful education much more difficult (Lilly-Compton, 2009). Data driven instruction meets the need of good readers, so it is important that all reading interventions be based on research (Bruce et al., 2009). Assessments are important in order for instruction to be planned effectively. If the appropriate assessments are complete, then good instruction can take place (Vaughn & Fuchs, 2003). There are many tools available to assess student reading and most school districts select a few which have been proven to be good assessments through current research. However, if careful selection does not happen, the time and energy of teachers and students is wasted through the use of assessments that do not improve students' work (Moats, 2006). Mariotti and Homan (1997) stated that the entire purpose of assessments is to monitor the classroom, select students who need more help, and plan interventions.

Outcome assessments are end-of-year accountability tests that are required by No Child Left Behind legislation (National Reading Panel, 2000). These assessments measure reading achievement and comprehension. The assessments are administered to

groups with time limits and a standardized delivery method including a script to be read by the proctor. The results of the outcome assessments are reported in various ways so that school districts, teachers, and parents can tell how the student scored. Outcome assessments provide information to show improvement to meet adequate yearly progress goals (Moats, 2006). End-of-year tests such as the Stanford 9, Iowa Test of Basic Skills, Terra Nova, Gates-MacGinitie, and Metropolitan Achievement Tests are often used for this purpose (Moats, 2006). These assessments must identify the student's ability before the student fails (Torgesen et al., 2007). Screening assessments are a type of evaluation that can be used to identify older readers who are behind (Strickland et al., 2002). The diagnostic assessment is a type of survey that identifies students' weaknesses so that teachers can plan the appropriate instruction (Mariotti & Homan, 1997). The progress monitoring assessment is another type of assessment given to students who are scoring low for their grade level and who are receiving extra remediation (Kamii & Manning, 2005). It is important that students continue to be assessed on their reading level to make certain that they are progressing in their reading (Good, Gruba, and Kaminski, (2001).

Educators have worked on programs and assessments which will help them identify students who are at-risk of reading failure. One type of assessment used for this purpose is DIBELS. The DIBELS assessment was created by researchers at the University of Oregon Center of Teaching and Learning and has been used since 2001 the DIBELS assessment uses progress monitoring in the areas: phonics, phonemic awareness, and fluency to monitor students reading skills (Good, et al. (2001). The DIBELS benchmark assessment is administered three times a year to monitor the student's

progress outside of benchmark assessments. The teacher has the opportunity to progress monitor students weekly or monthly. There are at least 20 different reading related probes that teachers can use to progress monitor weekly or monthly. Progress monitoring is an assessment that the DIBELS program uses monthly to monitor students reading progress in reading fluency. Each assessment takes one minute to administer (Good, et al. (2001). The DIBELS assessment includes a series of small test content subtests where students identify letters, sounds, sound blends, and reading fluency passages, which measure basic reading skills. The skills assessed are letter knowledge, letter-sound association, and fluency. The DIBELS assessment scores determine the success or failure for students who are a part of the No Child Left Behind criterion (Good, et al. (2001).

Data from the assessment can be used by teachers, reading specialists, school administrators, and special school district teachers to develop grade level expectations and improve instructional strategies. Valid assessments provide feedback for the classroom teacher as well as the building administrator. This information identifies students needing reading interventions, which effectively impact student achievement (Good, et al. (2001). Data from the DIBELS assessment are scored by computer, making the test more valid. This assessment information provides insight on new instructional programs, professional development for teachers, and tutoring for students (Good, et al. 2001).

According to Mariotti and Homan (1997), “the Informal Reading Inventory (IRI) provides the most complete and useful information about readers” (p. 71). The Informal

Reading Assessment is an assessment that includes grade level passages with comprehension questions. The assessment determines the independent, instructional, and frustration levels of the reader. After the levels of reading have been determined, the teacher can group students according to their level of achievement (Mariotti & Homan, 1997). At the independent level, children will read on their own without assistance, the instructional level reveals what point teaching should take place, and the frustration level is the most difficult reading level for the child (Mariotti & Homan, 1997). The IRI assessments and a non-standardized test can offer proficient instruction and direction for corrective reading remediation despite the type or model of instruction presented (Paris & Carpenter, 2003). Teachers have the option of creating their own teacher-made test when administrating the IRI. However, the educator has the option to utilize the test created by the publishers of IRI (Mariotti & Homan, 1997). Some IRI's include a word-recognition test or a list of words that students read to determine which grade level to begin assessing. The IRI allows the teacher to observe reading behaviors and strategies that students use while reading (Mariotti & Homan, 1997).

Best practices for Early Literacy Intervention

Balanced-literacy is an effective program for reading instruction. This program includes a combination of reading and writing (Fountas & Pinnell, 2001). During balanced literary, the students have the opportunity to express what they have learned through a written response that directly relates to reading lessons (Fountas & Pinnell, 2001). The writing component of balanced literacy does not always mean that students

will write essays or letters, but they will be able to constructively respond to specific questions as related to the story (Fountas & Pinnell, 2001).

The balanced literacy reading strategies include the following: read alouds, shared reading, guided reading, and literature circles (Fountas & Pinnell, 2001). Read alouds allow students to listen to fluent readers read unfamiliar text and vocabulary, while giving teachers an opportunity to model good reading strategies (Fountas & Pinnell, 2001).

Another type of informal reading assessment is the cloze procedure (J. Vacca & R. Vacca, 2002). The cloze procedure consists of passages with words omitted leaving it up to the student to figure out what word belongs in the passage (J. Vacca & R. Vacca, 2002). This assessment also gives the teacher a clear picture of how much background knowledge a student has on a particular subject. The IRI can use the same reading passages as the cloze procedure to determine comprehension levels, readability of written material, vocabulary development, and language skills (J. Vacca & R. Vacca, 2002).

The cloze procedure can be used as a comprehension assessment in shared reading to develop context clues and language skills. Students are able to work with their peers in small or large groups while using the cloze procedure (Blachowicz & Fisher, 2010). As the children become more familiar with language and context, shared learning gives the children a chance to tell their peers what they know (J. Vacca & R. Vacca, 2002).

The most important goal of reading instruction is to help students develop skills and strategies to become independent readers (Johns & Lenski, 2001). Teachers have the primary job of modeling good reading strategies for the students (Johns & Lenski, 2001).

Two examples of good practices that would strengthen the reading process are literature circles and guided reading activities (Rasinski, 2003). Literature circles allow children to work in groups, develop relationships, and then use their thinking skills to understand new vocabulary and language concepts (Fountas & Pinnell, 2001). Guided reading groups help students develop reading skills in order to become better readers (Fountas & Pinnell, 1996). During guided reading, students are able to better understand reading concepts in a small setting as opposed to whole group instruction (Fountas & Pinnell, 1996). Teachers use the small group time to observe students' reading behaviors and to make note of what strategy the student is using and also what mistakes they are making (Fountas & Pinnell, 1996). The small group setting allows the teacher time to give good quality feedback to the students without the fear of the student being called on in front of the entire class (Kesler, 2010). Small groups help the students learn new skills, which will help them become better independent readers (Kesler, 2010). Guided reading can also be fun and exciting for the students--fun because the students read material written just for their level and exciting because they are learning strategies that will make them better readers (Rasinski, 2003).

Reading First

Reading First is a federal initiative authorized by the No Child Left Behind Act to decrease the reading achievement gap (NCLB, 2001). Reading First is a federally funded program designed to help states improve student achievement and reading instruction (U.S. Department of Education, 2002). Local school districts, the U.S. Department of Education, and the states have a goal for all students to read above or at grade level by

the end of Grade 3 (National Reading Panel, 2000a). Too many students were falling behind in reading in Kindergarten through Grade 3. The Reading First goal was developed to improve reading instruction for children considered non-proficient readers (National Reading Panel, 2000). If a child has not become a good reader by Grade 4, he or she may never become a proficient reader (National Reading Panel, 2000b).

The Reading First Initiative is a research based practice approach that teaches the components of phonics, phonemic awareness, vocabulary, comprehension, and fluency to students (National Reading Panel, 2000b). Teachers are trained in Reading First by a Reading First Coach (usually a reading specialist selected by the district) to ensure proper administration of reading strategies. The curriculum that Reading First uses is titled Harcourt Trophies (Good & Kaminski, 2002). Each reading skill is taught daily in the classroom using a differentiated, explicit, and whole group instructional approach to teaching (Good & Kaminski, 2002). According to Good and Kaminski (2002), the Gates assessment is administered twice a year, and the DIBELS benchmark assessment is administered three times a year. Students are progress monitored using the DIBELS assessments once a month for effective instruction.

According to J. Vacca and R. Vacca (2002), scaffolding is a reading strategy teachers use to help students become better readers. J. Vacca and R. Vacca described scaffolding as being a tool for guiding students to become independent thinkers. J. Vacca and R. Vacca found that the goal of scaffolding was to understand what strategies were needed to help children develop independent practices. Frey (2010) stated that most

children need scaffolding and guided practice when new reading concepts are being introduced.

According to Williams, Phillips-Birdsong, Hufnagel, Hungler, and Lundstrom, (2009), word study is an effective approach to assisting students' spelling and writing. Williams et al. (2009), described word study as being a tool educators use to help students recognize vowels, vowel patterns, consonant blends, diphthongs, and diagraphs within written text content. Williams et al. stated that during work word activities, students engage in understanding the connection between letters and sounds. According to Iverson and Turner (1993), students learn the pattern of words to help them decode longer words during reading. According to the research of Kesler (2010), teachers have to find out what students know about alphabet patterns before a word study program is implemented. Kesler found that when students grasp the concept of using the alphabet, they have a clear understanding of learning vowel patterns.

According to Fountas and Pinnell (1996), there are two approaches to word study instruction. One approach is to teach word study in guided reading groups, and the other approach is using word study lessons to develop spelling. Evans, Williamson, and Pursoo (2008) described word study as a program to help students learn about words. Spelling tests become more meaningful when students are able to learn words and not memorize a list of words. Zucker, Ward, and Justice (2009) stated that these lists of words will be forgotten and never utilized again after the test date. Evans et al. (2008) stated that students can use word building strategies to apply to their daily writing. The

research showed the significance of word study and how it can be applied in reading and writing instruction and activities.

According to Fountas and Pinnell (2001), word walls are one approach to help students understand words in the classroom. Williams et al. (2009) described word walls as being an instructional tool for reading and writing. Williams et al. indicated that word walls should be posted in the classroom where children can easily see and use them often as a reference for writing simple sentences, spelling words, and practicing vocabulary.. The word wall contains a collection of sight words learned from weekly reading lessons. Frey (2010) stated that when teachers are instructing, they should schedule times for word work during reading, writing, and center time.

Fluency

According to Rasinki (2003), oral reading fluency is a strategy used to help students become fluent readers. Rasinki described oral reading fluency as monitoring a student's ability to read grade level passages with accuracy. Rasinki stated that teachers should select materials for students to read independently when incorporating fluency into their curriculum. Johns and Lenski (2001) stated that the more students practice skills like spelling chunks, letter names, syllables, and word lists, the more fluency will increase.

According to Fisher, Frey, and Lapp (2008), using a variety of teaching strategies will accommodate the different needs of students. Blachowicz and Fisher (2010) stated that guided reading strategies, such as book walks, building background knowledge, comprehension, and developing vocabulary, are good instruction for the struggling

reader. Rasinki (2003) indicated that students need to practice reading short passages to make reading automatic and expressive.

According to Rasinki (2003), "oral reading should take on a more prominent role as well, because it leads to better silent reading" (p. 8). Students, as well as adults, use oral reading on a daily basis in the world outside of the classroom. This is why it is important to implement the strategy of oral reading. Throughout the duration of the researchers' experiences in teaching students she utilized the practices of oral reading fluency with all subject areas using both the small group and the whole group. As a result, the students gained confidence and performed better on teacher-made assessments that required the reading of longer passages.

Children who struggle in reading have a difficult time when it comes to reading aloud. Therefore, it's important that teachers buddy students up with partners they are comfortable with as they practice oral reading fluency passages. With oral reading fluency, students are always able to re-read the passage for accuracy or until they have reached their goal of reading so many words within a minutes time.

Reading Recovery

The RR program was developed in New Zealand by developmental psychologist Marie M. Clay (Clay, 1993b). It was developed to assist students where they are (a low reading level) and take them to an average reading level by using individual tutoring and properly trained teachers understanding how to work with the lowest of the low students (Clay, 1993b). Children who have a chance to take part in RR, which is determined by assessments, have already engaged in classroom instruction for one year (Kindergarten)

(Clay, 1993a). The children who are the lowest of the low students receive RR intervention (Clay, 1993a).

This intervention includes a 30 minute lesson outside of the classroom by highly-qualified trained teachers, usually reading specialists (Clay, 1993a). During the 30 minutes of instruction, the teacher focuses on specific skills that were determined by reading assessments. Each lesson includes learning about letter/sound relationships (Clay, 1993a). Lastly, RR encourages concepts about print and comprehension strategies, so that instruction is meaningful and students read fluently (Fountas & Pinnell, 1996).

The length of time a child spends in RR normally lasts anywhere from 12 to 20 weeks (Clay, 1993b). However, each child's learning abilities may differ (Clay, 1993 b). During the time of instruction, the goal for the child is to perform up to the level of average achievement in the classroom. If the goal is not met, the child is recommended for special testing and possible long-term intervention (Clay, 1993b).

The expectation of RR is to decrease the number of children who require additional intervention (Schmitt, Askew, Fountas, Lyons, & Pinnell, 2005). The instructional result is for children to develop independent reading strategies in both reading and writing beyond Grade 1 (Ruhe & Moore, 2005). These strategies permit life-long success in literacy achievement beyond the intervention time. Much research has been conducted on this program; however, little has been longitudinal in nature. Most of this research was conducted in the 1990s before No Child Left Behind (2001).

Teachers receive a large amount of professional development to guarantee quality instruction for children who are diverse learners (Smith-Burke et al., 2002). Teachers participate in professional development for a year with the option to receive college credit from a university (Smith-Burke et al., 2002). The training for RR usually takes place after school and during the summer so teachers are still able to work with four students daily (Smith-Burke et al., 2002). Lessons taught by RR trainees are observed at every class session throughout the year by other colleagues behind the glass (a one-way mirror where other trainees can observe), where the teacher teaches a lesson in front of peers, while the other trainees observe and discuss the lesson (Smith-Burke et al., 2002).

School districts have the option of utilizing RR as a part of a comprehensive school improvement program to increase literacy achievement (Smith-Burke et al., 2002). The comprehensive school improvement plan generally focuses on improving classroom instruction (Smith-Burke et al., 2002). This plan promotes good classroom teaching strategies, early literacy intervention, and continued extra support for students (Smith-Burke et al., 2002). The strategies taught in this program can carry over into the upper grade levels. To create common language within the school the entire staff should be trained and not just Reading Specialists or RR teachers (Smith-Burke et al., 2002). Clay (1996) said it best,

> Reading Recovery cannot be compared with any classroom program or any teaching method. It is designed to take the children who become the lowest achievers in any classroom and were taught by any teaching method and provide them with a series of lessons supplementary to that program. (p. 1)

Reading Recovery was compared to three other instructional methods and a control group. The study included 324 of the lowest achieving students. The results of this study concluded that RR was the most successful intervention of the three (Pinnell, Lyons, DeFord, Bryk, & Seltzer, 1993. The results of this study demonstrated that children who are low-achieving students can surpass their peers when proper teaching interventions are put in place to improve the quality of teaching and learning. There is a greater need for more RR teachers in the school system to make sure that the lowest of the low achieving students are receiving literacy support. Most are progressing at a slower pace because of the lack of one-on-one instruction (Schwartz, 2005).

In 1989, Pinnell (1989), used and designed an experimental study that involved 21 teachers. The teachers in this study were trained in RR. The children had a low-income background and attended school in an urban setting. Undoubtedly, the students who were the lowest were the RR students. This statement confirms the research conducted by Clay (1993a). The students in the study were taught by teachers who were trained in the RR program. The test measures used were Stanford Achievement Test, Text Reading Level, and Observation Survey. The study concluded that RR children from program classrooms performed statistically better than the comparison children on all assessments. Pinnell (1989) suggested that during a follow-up study, the students receiving RR intervention still scored much higher than the comparison students one year later (Pinnell, 1989).

In 1993, Iversen and Tunmer researched a group of at-risk Grade 1 students throughout the year. Thirty-two students were assigned to receive RR or standard

reading intervention (Title I small-group instruction). The students completed a series of assessments at the beginning, middle, and end of the school year in relation to the point of discontinuation for the RR subjects. The research concluded that the RR students remained on the same testing level as the average classroom students.

Center, Wheldall, Freeman, Outhred, and McNaught (1995) conducted a research evaluation on RR. Their sample included those students in 10 schools, who had RR and those who had no reading intervention. All groups were assessed with the same reading measures for the pre and post-test. The post-test proved that students who had RR performed better than the students who did not have RR. Overall, the Grade 1 students who had RR continued to score higher than any of the students. The researchers concluded that RR students continue to perform higher than control students on all test measures, even a year later.

In 2001, Quay, Steele, Johnson, and Hortman examined two similar groups of at-risk Grade 1 students across the year. The quasi-random procedures were assigned to the two groups. One of the classrooms was chosen to service RR children. Another classroom was selected for the control group. The measure of assessment used in this study was the Observation Survey and the children with the lowest scores were assigned to the two groups. The groups were both equally low on the pre-test but did not differ on the ITBS test in the fall. Of the two groups, the RR children performed significantly higher than the control group children on three assessments. In summary, the study findings support the notion that student achievement can be achieved when the proper reading interventions are in place.

Schmitt and Gregory (2002) conducted a study that included 548 children. This study selected from a population of second, third, and fourth grade children in 253 schools in Indiana. The teachers that were included in this study had at least two years of experience with RR (Schmitt & Gregory, 2002). The reason for this was to ensure that they had experience in teaching instructional strategies for reading. "Children who successfully completed RR lessons in the first grade in Indiana continue to achieve at levels comparable to their peers" (Schmitt & Gregory, 2002, p. 17).

Similarly, Ruhe, and Moore (2005) investigated the performance of 1,260 fourth-grade former RR children. There were more than 14,000 students who took the Main Educational Assessment and compared the results to former RR students (Ruhe & Moore, 2005). They found that the Grade 4 students who successfully participated in RR performed at average levels in reading and writing. It was also difficult to determine the RR students from the general population of Grade 4 students (Ruhe & Moore, 2005).

Overall, the research studies mentioned above demonstrated the positive short-term effects of RR. However, few researchers have examined if students who experience this reading intervention remain on grade level with their peers in Grade 4 and beyond.

What Works in Reading Recovery

Program evaluation data has been collected for every child serviced in RR for eight years in the United States (Lyons, Pinnell, & DeFord, 1993). According to Lyons et al. (1993), data analysis across several school sites in North America indicated that something in the program is working. Lyons et al.'s controlled study reported that the data compared many treatments that revealed the essential components of RR. The three

factors that were contributors to the successful outcome of RR were the framework lesson, individual instruction, and teacher education. Lyons et al. illustrated that out of the three components of RR teacher education was the most influential factor. Teachers who had participated in the RR training program seem to teach more efficiently than those prepared in an alternative model. The researchers explained that individual instruction piece out of the three treatments was important but not a sufficient factor (Lyons et al., 1993).

Lyons et al. (1993) included three one-to-one treatments in their study: Direct Instruction Skills Plan, Reading Success, and RR. The first two of the three had unsatisfactory results. The most effective treatment was RR which provided teachers with training and follow-up support. The RR students were more likely to make successful gains; that is, with the 70-day period, the students could read texts at higher levels than students serviced in the other treatments (Lyons et al., 1993). Lyons et al. suggested that "These children had developed networks of understandings that worked together for further learning" (p. 56). It is evident that not all students need one-on-one RR instruction; however, it should be reserved for students who are at risk.

More Effective Teaching in Reading Recovery

Complex comprehension activities are what readers participate in daily. Through visual cues and information from print readers are able to access their knowledge of language (Lyons et al., 1993). Self-correction and starting over are all behaviors that prove monitoring, checking, and searching processes are being utilized in young readers. According to Lyons et al., it is harder to determine what strategies older readers are

using. For RR teachers, Clay (1991) gives this definition for reading: "a message-gaining, problem-solving activity that increases in power and flexibility the more it is practiced" (p. 6).

The first goal of reading is to gain meaning. Meaning is often gained through comprehension problem solving activities by the reader. Listeners usually don't know what's going on in the head of the reader, but they can assume that a process is being used along with the eyes to gain meaning (Lyons et al., 1993). Lyons et al. says in order to understand this kind of system better, teachers must think of themselves as readers. Reflect on those times that required them to read unfamiliar text or difficult genre not often required of them to read. The reading might have started off slowly and the reader had to reread to clarify. However, the more and more the text was read fluency increased and it became easier. Good readers always have the ability to teach themselves to read better.

To extend their knowledge and abilities constantly, good readers have self-extending systems that allow them to explore difficult text (Clay, 1991). Readers predict and monitor while reading. They also use their background knowledge about language and the world to understand text.

In order for teaching to be successful, teachers need to first learn how to be effective teachers of children. To be an effective teacher this means a decision-making process must occur (Lyons & Pinnell, 1999). According to Lyons and Pinnell, during instructional moments it is important to consider the following questions:

- What does this child know based on experience with him/her?

- Without teacher assistance what can he/she do?
- What is the next step and what does he/she need to do?
- At this moment why is this new learning strategy important?
- When can he/she engage in the learning process without help?
- Is he/she able to understand the task I am asking them to perform, or do I need to model the task before I teach the process?
- What is most beneficial in helping him/her move forward in the learning process?
- Rather than getting the answer right, what process will help him/her learn the process? (Is this a direct quote? Do you need a page number?)

These types of questions will help the teacher as a learner to better understand the needs of the students. The questions listed above, cover a small amount of problem solving techniques/strategies that teacher can engage in doing teaching and learning (Lyons & Pinnell, 1999). Lyons and Pinnell described teacher learning as, "helping children learn generative processes that they can apply in many ways. They are learning how to learn at the same time that they are acquiring specific pieces of information, such as vocabulary words" (p. 198). Teachers may have strategies in their head that they want the learner to develop, but they cannot directly teach it. Therefore, the student learner must learn something about how to learn (Lyons & Pinnell, 1999). This process is called teaching for strategies. Teacher interactions with children are designed to support learning is the meaning of teaching for strategies (Clay, 1991). Most children are visual learners and when their attention is drawn to the visual picture of the word this strategy can be used to learn any word (Clay, 1993 b). Teachers always have the ability to perfect

their craft. Teaching new students helps them to enlarge their understandings of teaching complex strategies, theories, and activities each school year. The process of learning about teaching is consistent for teachers while they are teaching. Working with students who have difficulty learning new strategies may require teachers to revisit and revise their strategies and theories (Lyons & Pinnell, 1999).

Teachers Learning to Use their Knowledge Effectively

As teachers begin to acquire knowledge and learn new strategies they have to construct an idea of the child's developmental thinking processes. This structure will help the teacher help the students take on new learning challenges in an effective and efficient way (Lyons & Pinnell, 1999). According to Lyon and Pinnell, carefully observing behaviors, actively engaging in an investigative process, and analyzing the behavior as evidence is the only way one can have a clear understanding of the child developmental thinking process. Lyons and Pinnell described the process like this:

- Listen and watch- Observation is the key to provide effective feedback to guide foundation for instruction. It is also the process that helps to build theory of how learning is taking place and how the learner responds to instruction.
- Probe- After the teacher has effectively observed certain learned behaviors and interacted with the students, now specific questions can be constructed based on information gathered from general knowledge and observations.
- Select hypothesis- Information is gained, the focus is established, and now specific questions or probes will be asked again.

- Test- Now the hypothesis is put to test through interaction with students based on a researched based theory. Throughout this process, observation is ongoing for evidence of change and support to determine if the hypothesis is rejected.
- Reassess- If the assessments support the hypothesis, the teacher will then continue to use the teaching strategies and interventions with children. If the assessments results show insignificant progress then the teaching is not helping specific students.

Teacher effectiveness is a collaboration of trial and error, , re-teaching, and revising theories put into place to best help the teacher teach effectively and students becoming better learners. Lyons and Pinnell (1999) stated, "The power of teaching is in the moment-to moment interactions that take place during the lesson. It is in the ways the teacher can call children's attention to powerful examples that help them develop an understanding of the process" (p. 201).

Reading Recovery Distinctions

Many reading interventions exist, but RR is one of the most effective because of the training teachers receive (Smith-Burke et al., 2002). Rather than providing teachers with a script to follow or specific workbooks and texts to use, the teachers who are first year RR teachers receive yearlong education, which account for college graduate level credits towards a graduate degree (Smith-Burke et al., 2002). Education continues after the first year. RR Teachers are required to attend additional professional development sessions and classes throughout the school year with RR coaches and peers (Homan, 2002). This program is not intended for group instruction or whole-group classroom

instruction, taught by paraprofessionals or volunteers (Smith-Burke et al., 2002). However, there are other reading programs that are very different from Reading Recovery such as Success for All (SFA).

Success for All is an uninterrupted 90-minute program of daily reading instruction (Success for All Foundation, 2010). In comparison to RR, SFA starts with 1st grade but children are grouped across classes and grades according to assessed grade level (Slavin, Chamberlain, & Daniels, 2007). Students are assigned to the 4th grade, but may read on 1st grade level. Those individuals would then be grouped together to receive reading instruction (Success for All Foundation, 2010). Success for All's main focus is cooperative learning to reinforce student accountability, common goals, and successful group work (Success for All Foundation, 2010). Unlike RR that specifically focuses on one-on-one reading intervention by qualified and certified RR trained teachers (Clay, 1993b), SFA offers one-on-one tutoring for struggling students and some of the components that are covered are similar to those used in RR. The components covered in SFA are the following: shared reading, phonics, phonemic awareness, comprehension, and vocabulary and are similar to Reading First.

The Reading First and SFA reading programs are more focused on whole-group instruction than RR (Good & Kaminski, 2002). Another difference is the assessment tools used to determine the grouping of students. The RR teachers use Gates-MacGinitie assessment for initial placement and follow-up with the Direct Reading Assessment (DRA) to track and monitor student progress (Gapp, Zalud, & Pietrzak, 2009). The SFA program does not have a specific assessment to identify students' reading levels. Schools

use different assessments to group their students according to reading level (Success for All Foundation, 2010). The school district decides on the assessment used to group children. However, the assessment titled "4sight assessment" (offered through Success for All foundation) is an option that some school districts have used as mentioned on their website. The 4sight assessment measures sub-skills that produce scores designed around state standards (Success for All Foundation, 2010).

New Century Education Corporation (2010) is a computerized reading, writing, and math program for students to receive instruction and practice skills identified on the pretest. According to the New Century Education Corporation, the computerized program for reading was developed in 1983. By 1989, the math and writing component was developed to free teachers up to work with individual groups of students (New Century Education Corporation, 2010). Unlike RR, New Century Education uses computerized assessment diagnostics that determine educational strengths and weakness from kindergarten through high school. This program is designed for whole group instruction but not limited to small group instruction, whereas RR specifically focuses on servicing the lowest achieving Grade 1 students receiving one-on-one instruction (New Century Education Corporation, 2010).

Literacy at the Secondary Education Level

Organized schooling in the United States throughout history along with school leaders, educators, and school policy makers have wrestled with the questions for literacy: How will they become literate? Who will become literature? Why will they become literate (Reutzel, Hollingworth, & Cox, 1996)? School districts and legislators

have been pressured to reexamine their goals for literacy development because of the current economic status of the United States. A third of high school graduates enrolling in college are now required to take remedial courses in math, reading, and English for which they receive no credit. At least 40% of high school graduates are lacking in basic reading and writing skills that employers are seeking for job placement (Achieve, Inc., 2005).

Irvin and Conners (1989) conducted a survey in 1987 and found out that across the nation by Grade 5 most of the school systematic reading instruction ends. According to Herber (1978), "it is during the transition from elementary to middle school that students need to shift from learning to read to reading to learn" (p. 5). The public education school systems have concluded that middle and high school grades do not need an emphasis on literacy instruction. Swafford and Kallus (2002) supported the integration of reading and content instruction during the early grades so that students "can learn to read to learn" (p. 14). They suggested that this instructional approach would prevent "text shock" when the students move to secondary levels. Various content disciplines, curriculum, and text literacy needs expanding at the secondary levels (Moje, Yound, Readence, & Moore, 2005). To explain the need for teaching different strategies in the 21st century, Elkins and Luke (1999) wrote,

> Today adolescence and adulthood involve the building of communities and identities in relation to changing textual and media landscapes. They involve finding a way forward in what is an increasingly volatile and uncertain job market, and negotiating a consumer society fraught with risk, where written and

> media texts are used to position, construct, sell, and define individuals at every turn and in virtually every turn and domain of everyday life, in the shopping mall and the school, online, and face-to-face. (pp. 6-7)

Reading must be the instructional focus for all content areas in the secondary school setting; however, it is a thought that this instruction be the primary responsibility of the Reading Specialist (Anderson, Hiebert, Scott, & Wilkinson, 1985; Irvin & Conners, 1989). Obviously, in the secondary school setting, the reading approaches and practices appear to fall behind in reading theory: "Ideally, these schools teach reading, writing, speaking, listening, and thinking as parts of an integrated curriculum as these processes relate to content" (Irvin & Conners, 1989, p. 311).

The United States federal government started an effort to repair literacy and academic expectations in a new education reform in response to the growing problem of adolescent illiteracy called the No Child Left Behind Act of 2001 (NCLB, 2001). After signing the legislation, President George W. Bush declared,

> Today begins a new era, a new time for public education in our country. Our schools will have higher expectations we believe every child can learn. From this day forward, all students will have a better chance to learn, to excel, and to live out their dreams. (Committee on Education and the Workforce, 2002, p. 1)

Students who leave the secondary schools without literary skills to be successful in a global community cause a major economic hardship on the United States. The former President George W. Bush developed a $100 million reading-intervention program in 2004 for middle and high school students to address the problem of literacy

development (White House Press Release, 2005, p. 5). The President's 2006 budget included $200 million to support the Striving Readers initiative to improve the reading skills of high school students (White House Press Release, 2005). The focus on improving literacy has not resulted in success at the secondary level (O'Brien, Stewart, & Moje, 1995). Moats (1999) explained that, "Teaching reading is rocket science" (p. 4). Gray developed the phrase "every teacher is a teacher of reading" in 1937 (as cited in Fisher & Ivey, 2005). This concept of every teacher being a reading teacher has not resulted in significant increases in the student achievement at the secondary level (Fisher & Ivey, 2005).

Barry (2002) found that many content teachers resist this role as reading teachers because of lack of preparation, skill, and support. Adolescents face a higher demand to read on higher levels than any other time in history (Moore, Bean, Birdyshaw, & Rycik, 2005). Dr. D'Amico (2002), Assistant Secretary to the Office of Vocational and Adult Education, described literacy challenges as a "threat to national economic security" (p. 4). D'Amico's conclusion is that lack of literacy is a national threat was based on the following: the level of achievement in math and reading, and the decrease in literacy between Grades 4 to 12. This was a result of false beliefs that reading instruction can stop after Grade 3. Various amounts of high school graduates are now entering college unprepared in reading and math. The percentage of students taking remedial courses in math and reading has increased. D'Amico (2002) reported that in the community colleges, 40 to 60% of freshmen needed remedial courses. Some Hispanics, African Americans, and students with disabilities do not finish with a diploma four years after

they start. Some of these students view it as impossible to catch up with their peers, give up, and drop out of school (D'Amico, 2002).

Development of Content for Adolescent Literacy

Over the past two decades, research on adolescent literacy has shifted away from a content literacy model toward a student experiences in and outside the classroom environment model (T. W. Bean, S. K. Bean, & K. F. Bean, 1999; Gee, 1996; Moje, 2000). Swafford and Kallus (2002) surveyed key researchers such as Alvermann, Bean, Moore, and Ruddell, regarding their views on the development of content literacy. The inclusion of social and cultural contexts and the role technology plays in literacy development was expanded by the fore mentioned researchers. This shift from content literacy to adolescent literacy is grounded in situated cognition (Brown, Collins, & Duguid, 1989). Situated cognition recognizes internal and external processes that serve as natural dimension in new learning (Kirshner & Whitson, 1998). Curriculum teachers and writers have the responsibility of finding the problem between adolescents' multiple literacy experiences and the secondary school classroom (Moje, 2000).

There were 15 critical elements of effective adolescent literacy programs outlined in the Reading Next (Biancarosa & Snow, 2004) report from the Alliance for Excellent Education. The adolescent literacy programs for struggling readers contain the following 15 elements:

- A comprehensive literacy program, which is interdisciplinary and interdepartmental that coordinates with out-of-school organizations and the local

community Diverse text, which include a variety of topics and difficulty levels using text

- Ongoing formative assessments of student work that can include daily or weekly assessments of how students progress in instructional practices
- A technology component which includes tools for literacy instruction
- Intensive writing instruction connected with all forms of writing to help students perform well in high school and beyond
- Direct, explicit comprehension instruction, which is instruction that independent or proficient readers use to understand what they have read
- Effective instructional principles embedded in content, including language arts teachers using content-area teachers providing instruction and practice in reading and writing skills specific to their subject area
- Text-based learning, which involves students interacting with one another around a variety of texts
- Extended time for literacy, which includes two to four hours of literacy instruction and practice that takes place in language arts and content area classes
- Professional development, which is both long term and ongoing
- Ongoing summative assessment of students and programs, which is more formal and provides data that are reported for accountability and research purposes
- Leadership, which come from principals and teachers who have a solid understanding of how to teach reading and writing to students

- Teacher teams, which are interdisciplinary teams that meet regularly to discuss are students and align instruction
- Motivation and self-directed learning, which includes building motivation to read and learn and providing students with the instruction and supports needed for independent learning tasks will face after graduation
- Strategic tutoring, which provides students with intense individualized reading, writing, and content instruction

  These specific skills will help adolescent readers develop skills for motivation and self-directed learning that supports the need to become independent readers and writers (Biancarosa & Snow, 2004).

Benefits of Reading Recovery

According to Jones (2000), RR understands the need for early intervention and assessment for low achieving students. Gapp et al. (2009) described RR as a powerful research-based assessment tool for identifying Grade 1 students having difficulty with early literacy. The *Principal's Guide to Reading Recovery* (2002) emphasized that RR requires strong staff development for classroom teachers who service children functioning at the lowest reading level. Clay (1993 a) argued that through this reading program, low-achieving children can learn. It also gives educators another way of thinking which creates higher student expectations (Smith-Burke et al., 2002).

Johns and Lenski, (2001) explained that effective teaching models of reading instruction can increase students' self-esteem, because they are learning how to read and write using the correct strategies. Mariotti and Homan (1997) described reading

assessments as being tools used to track data for reading progress and a basis for instruction. In order to maintain the success of RR, principals must become knowledgeable about RR and be able to discuss its goals, purposes, practices, and results to various audiences, including a bigger community, for example parents (Smith-Burke et al., 2002). These goals should be incorporated as important piece in the continuous school-wide improvement plan (Smithe-Burke et al., 2002). The RR program meets the Requirements of the 2001 Elementary and Secondary Education Act that requires reading programs to meet criteria of research that applies to the development of reading instruction (National Reading Panel, 2000).

The RR program is a successful intervention in teaching primary children to read; there are only a few literacy programs with the same success as RR in teaching children to read (Center, Wheldall, Freeman, Outhred, & McNaught, 1995; Iversen & Turner, 1993; Pinnell, Lyons, DeFord, Bryk, & Seltzer, 1993; Quay, Steele, Johnson, & Hortman, 2001; Schwartz, 2005). According to Cox and Hopkins (2006), there is "more research evidence supporting RR as a means to accelerate the development of early reading than any other instructional intervention" (p. 257). The Institute of Education Sciences (IES, 2007) stated that the What Works Clearinghouse (WWC) found the effects of Reading Recovery to be extremely positive on basic reading achievement and alphabetics (understanding letter sounds and how they relate to words and meaning). Moreover, through successful teaching of comprehension and fluency, positive effects were found when related to reading instruction (IES, 2007). It speaks volumes to be identified as an effective program by the WWC. The goal of WWC is to promote research-based

guidelines to assess the rigor of research findings to recognize the effectiveness of interventions.

Additional studies have explored the progress of RR students (Pinnell, 1989; Pinnell et al., 1993; Smith-Burke, Jagger, & Ashdown, 1994); increased self-esteem of Reading Recovery students (Cohen, McDonell & Osborn, 1989; Rumbaugh & Brown, 2000); cost-effectiveness compared to remedial reading programs, retention, and special education (Dyer, 1992); English language learners (Ashdown & Simic, 2000); and closing the literacy achievement gap (Rodgers, Gomez-Bellenge, Wang, & Schultz, 2005). The evidence of RR's effectiveness in narrowing the reading achievement gap was provided by these studies (Schmitt et al., 2005).

Rodgers, Gomez-Bellenge, Wang, and Schultz (2005) researched the effects of the reading achievement gap and early intervention. The early intervention used for this study was RR. The study had a wide range of information that included statewide data. The factors that were measured were race, ethnicity, and economic status. As Rodgers et al. (2005) began to examine the progress of literacy measures for students, they "established that a gap did exist in the state along ethnicity, and economic lines between the random sample and the students who received early intervention" (p. 5). Rodgers et al. discovered more findings with differences between a random sample and the intervention students. The students who received the RR intervention were no longer the issue because they either closed the gap or made the gap smaller. In conclusion, the early intervention was the key to closing the reading achievement gap. Those students who

received the RR intervention did significantly better when compared to students who did not participate in an RR intervention program.

Cohen et al. (1989) examined self-perceptions of at-risk and high achieving readers, beyond the Reading Recovery Achievement data. There were 138 Grade 1 participants in this study. The groups were separated into groups, 50 students were in Reading Recovery and 48 students were in remedial reading groups of approximately five to six students. The researchers randomly selected 40 high achieving students from the group of classmates. At the completion of the interventions the students were assessed on, "two scales (observation survey of early literacy achievement and running records), to measure attributions and self-efficacy" (para. 1). According to Cohen et al. (1989), when the children who had been RR trained were compared to the high-achieving students, their results were similar. In fact, their attitude towards learning and their efforts were more positive than the students in the remedial groups. Rumbaugh and Brown (2000) argued that

> school districts that choose to implement and maintain a Reading Recovery program would reap considerable benefits. One of the systemic advantages could be that the districts gain students who experience improved self-concepts due to enhanced feelings of significance. Not only will the Reading Recovery participants most likely become independent readers, they will also most likely become more confident, positive, self-accepting, proud, adaptable, and eager to complete tasks. (p. 28)

Each study aforementioned concluded that RR students outperform all groups included low achievers as well as high achievers. Schools cannot put a price limit on an early intervention program that implements research based strategies that has the ability to close the achievement gap as it pertains to literacy, also the students who participate become life-long readers and sustain reading gains.

The success of RR is credited to Clay (2007) and those who worked with Clay. Clay purposely outlined a theoretical framework (as discussed in the previous paragraphs) with specific program guidelines that teachers understood to successfully work with children enrolled in RR. Clay's research on literacy development has helped educators and administrators understand how to teach reading effectively (Clark, 1992). Clay's doctoral thesis featured the significance of recognizing the individualized approach children take to learn how to read (Clark, 1992).

Cox and Hopkins (2006) highlighted seven theoretical principles of RR inspired from Clay's (2007) research on young children. Reading is a complex, problem-solving practice where children construct their own meaning, experiences, and understandings. Learning to read includes processes of reading and writing while using ongoing text (Clay, 2001). Clay (2001) expressed that RR teachers must have knowledge and experience that aligns with the process of literacy development, monitoring of student progress, and research-based instruction.

Many considerations resulting from Clay's theory of literacy acquisition gives RR teachers information to help direct instruction through actions and decision-making processes (Clay, 1998, 2001, 2005; Jones, 2000). Clay (1998) explained that children's

literacy development is a difficult process. Children develop differently as they learn to read and write. As they develop, children use different strategies most common to them for literacy. Recognizing and responding to letters quickly, reading fluently for meaning, understanding various text structures, and hearing and recording speech sounds in sequence writing are all specific areas of processes observed during child literacy acquisition (Clay, 1998, 2001, 2005; Fountas & Pinnell, 2006; Jones, 2000). Furthermore, the "process by which the child can, on the run, extract a sequence of cues from printed texts and relate these, one to another, so that he can understand the precise message of the text" (Clay, 1991, p. 13), spotlights Clay's theory of literacy acquisition. In order to be successful in this process, children must have controlled oral language to coordinate what they see and hear in language and print as required in reading (Clay, 1979; Wasik & Slavin, 1993).

The RR intervention is a supplement for classroom teachers who allow lessons with one-on-one tutoring sessions during the school day. These lessons include reading familiar books, rereading yesterday's text and taking running records, letter identification, breaking words into parts (word work), writing a story, hearing and recording sounds, reconstructing the cut-up story, listening to the new book introduction (book walk), and attempting to read a new book (Clay, 2005). The lessons are designed to build on the students' individual strengths and address their individual needs (Clay, 1991, 2005).

According to Clay (2005), success rests in the teachers' ability to create a "superbly sequenced series of lessons determined by the particular child's competencies,

and make highly skilled decisions moment by moment during the lesson" (p. 23). The success of RR is not simply chance. The RR teachers have a "high level of expertise and knowledge regarding the literacy development process, its monitoring , and appropriate instruction, as well as an understanding of the importance of reflection on one's practice" (Cox & Hopkins, 2006, p. 261). Clay (1991) trusted that RR was only successful if teachers were effective observers of student participation when reading and writing. The teachers' reflections from what they observed would act as an instructional tool to meet the different needs of each student. As the teachers relate literacy development to their data on the different learning styles and strategies of children, instructional decision can be based upon their knowledge of how to instruct (Cox & Hopkins, 2006).

Clay was very active in research on emergent literacy, RR, and pushing the significance of teachers reflecting on their lessons to guide instruction. Reading Recovery is built on the assumption that teachers make decisions that best accommodate needs of students and use their training and experiences to effectively support the strengths and weaknesses of the child (Clay, 1991, 2005; Jones, 2000). According to Cox and Hopkins (2006), "each component of the lesson is designed to reflect increasing difficulty and challenges and to simultaneously meet the moment-to-moment needs of the learner based on the child's response to the lesson" (p. 256). The success of the lesson for RR teachers is measured by their ability to reflect during and after instruction on the child's reading and writing behaviors (Clay, 1998; Cox & Hopkins, 2006). This reflective way of thinking (Jones, 2000) is encouraged by RR through teacher journaling during each lesson with a child, observations by teacher leaders, professional

development opportunities, and team meetings. Not only do teachers reflect on student progress, they reflect on their own progress, as well.

Reading Recovery is one of the leading literacy programs that increase literacy skills in young students today (Schwartz, 2005). Rodgers (2004) conducted research on scaffolding practices of RR teachers that closely relates to RR. Rodgers focused on literacy tutors' effectiveness and how the instruction is delivered to change student's literacy abilities. Rodgers (2004) used the interaction between two expert teachers and two of their students each as tools of measurement for scaffolding in literacy tutoring. Student/teacher observations were monitored over a 12-week period. However, Rodgers felt that teacher reflection would increase the decision making process that encourages a better understanding of how scaffolding emerges in RR teaching practices. Rodgers described scaffolding as the "instructional decisions teachers must make on a moment-by-moment basis about the kind of help and level or amount of help to provide points of difficulty during reading" (p. 501). This research is important because it supports the fact that instructional decisions are being made moment-by-moment to accommodate the needs of children's strengths and weaknesses in the form of scaffolding. While Rodgers' (2004) study pointed out the importance of RR teacher decisions, this research highlights the significance of a RR program and the long-term good effects for students beyond elementary school.

Summary

The purpose of Chapter 2 was to review the framing literature on early literacy and intervention, the success of early literacy intervention, and explore the best practices

utilized for an early literacy intervention program. Chapter 3 will explore the methodology used to conduct this research.

Chapter 3: Methodology

The purpose of this study is to determine if students who had RR were able to improve or maintain their reading achievement over time. The researcher examined longitudinal data to determine if students who experienced RR are more successful on assessments all the way through high school. The researcher compared data gathered from RR participants and nonparticipants to compare measurements in reading using Gates-MacGinitie Reading Assessment and MAP communication arts scores from Grades 5, 8, and 11. The Gates-MacGinitie Reading Assessment is a commonly used measure to assess phonics, phonemic awareness, vocabulary and comprehension for Grades K-Adult reading. The MAP is the state assessment used to determine district AYP established by NCLB.

According to the What Works Clearinghouse,

> Reading Recovery is a short-term intervention of one-to-one tutoring for low-achieving first graders. The intervention is most effective when it is available to all students who need it and is used as a supplement to good classroom teaching. Follow-up studies indicate that most Reading Recovery students also do well on standardized tests and maintain their gains in later years. (Institution of Education Sciences, 2007, para 1)

However, this research has not been replicated in recent years. The cases examined in the literature review of this study did not go beyond elementary students reading progress for the RR intervention effectiveness. Yet, the researcher for this study evaluated the usefulness of the RR intervention program with a group of students from

first to 11th grade. Children who go to quality preschools are less likely to be retained in kindergarten through Grade 3, have higher graduation rates, and have fewer behavior problems (Barnett, 1995). During his study, Barnett (1995) reviewed 36 studies of model intervention programs and large scale public school programs to examine the long-term effects of these programs on children from low-income families. Although this research was conducted 15 years ago, it did find that the RR as good effects lasted over time. The research design and procedures used in this study are described in this chapter. Included are the research questions and hypotheses, purpose, procedures, and data collection and analysis procedures.

Research Setting

The McClendon-Woods school district was an ideal place for this research because all of the elementary schools in the district used RR for 11 years. Thus, this study's methodology is designed around a natural experiment that occurred in the district. The district has a high enrollment of students from a low socioeconomic status. The district had a low percentage of high school dropouts in 2009. The mission of the district where the study occurred focused on all students having the knowledge, ability, and skills needed to be a productive citizen and a life-long learner in a global society.

Research Questions and Hypotheses

The overarching research question was, Is there a difference in standardized test scores and high school graduation rates when comparing measures for students who experienced RR in Grade 1 and their peers who did not? The alternate and null hypotheses are as follows:

Alternative Hypothesis # 1: There will be a difference in reading growth achieved by students who formerly participated in the Reading Recovery Program when comparing the average change in total reading score earned by students from Grade 5 to Grade 6, Grade 5 to Grade 8, and Grade 5 to Grade 12, as measured by the Gates-Macginitie Reading Inventory.

Alternative Hypothesis # 2: There will be a difference in reading growth achieved by students who formerly participated in the Reading Recovery Program when comparing the percentile rank on total reading score earned by students from Grade 5 to Grade 6, Grade 5 to Grade 8, and Grade 5 to Grade 12, as measured by the Gates-Macginitie Reading Inventory.

Alternative Hypothesis # 3: There will be a difference in reading growth achieved by students who formerly participated in the Reading Recovery Program when comparing the average change in Grade Equivalency earned by students from Grade 5 to Grade 6, Grade 5 to Grade 8, and Grade 5 to Grade 12, as measured by the Gates-Macginitie Reading Inventory.

Alternative Hypothesis # 4: There will be a difference in academic achievement by students who formerly participated in the Reading Recovery Program when comparing the average raw score in communication arts earned by students for the years 2005 - 2007, as measured by the Missouri Assessment Program exam.

Alternative Hypothesis # 5: There will be a difference in summer loss of reading ability exhibited by students who formerly participated in the Reading Recovery Program when comparing the average change in Grade Equivalency in reading

across each summer, as measured by the Gates-Macginitie Reading Inventory. (For example: Grade 5 moving into Grade 6; Grade 6 moving into Grade 7; etc.)

Alternative Hypothesis # 6: For each individual grade level (5 through 11), there will be a difference in reading ability, as measured by total score on the Gates-Macginitie Reading Inventory, when comparing students who formerly participated in the Reading Recovery Program to students in the general population.

Alternative Hypothesis # 7: For each individual grade level (5 through 11), there will be a difference in reading growth, as measured by percentile rank in total score on the Gates-Macginitie Reading Inventory, when comparing students who formerly participated in the Reading Recovery Program to students in the general population.

Alternative Hypothesis # 8: For each individual grade level (5 through 11), there will be a difference in reading ability, as measured by grade equivalency for reading levels on the Gates-Macginitie Reading Inventory, when comparing students who formerly participated in the Reading Recovery Program to students in the general population.

Null Hypothesis # 1: There will be no difference in reading growth achieved by students who formerly participated in the Reading Recovery Program when comparing the average change in total reading score earned by students from Grade 5 to Grade 6, Grade 5 to Grade 8, and Grade 5 to Grade 12, as measured by the Gates-Macginitie Reading Inventory.

Null Hypothesis # 2: There will be no difference in reading growth achieved by students who formerly participated in the Reading Recovery Program when comparing the percentile rank on total reading score earned by students from Grade 5 to Grade 6, Grade 5 to Grade 8, and Grade 5 to Grade 12, as measured by the Gates-Macginitie Reading Inventory.

Null Hypothesis # 3: There will be no difference in reading growth achieved by students who formerly participated in the Reading Recovery Program when comparing the average change in Grade Equivalency earned by students from Grade 5 to Grade 6, Grade 5 to Grade 8, and Grade 5 to Grade 12, as measured by the Gates-Macginitie Reading Inventory.

Null Hypothesis # 4: There will be no difference in academic achievement by students who formerly participated in the Reading Recovery Program when comparing the average raw score in communication arts earned by students for the years 2005 - 2007, as measured by the Missouri Assessment Program exam.

Null Hypothesis # 5: There will be no difference in summer loss of reading ability exhibited by students who formerly participated in the Reading Recovery Program when comparing the average change in Grade Equivalency in reading across each summer, as measured by the Gates-Macginitie Reading Inventory. (For example: Grade 5 moving into Grade 6; Grade 6 moving into Grade 7; etc.)

Null Hypothesis # 6: For each individual grade level (5 through 11), there will be no difference in reading ability, as measured by total score on the Gates-Macginitie

Reading Inventory, when comparing students who formerly participated in the Reading Recovery Program to students in the general population.

Null Hypothesis # 7: For each individual grade level (5 through 11), there will be no difference in reading growth, as measured by percentile rank in total score on the Gates-Macginitie Reading Inventory, when comparing students who formerly participated in the Reading Recovery Program to students in the general population.

Null Hypothesis # 8: For each individual grade level (5 through 11), there will be no difference in reading ability, as measured by grade equivalency for reading levels on the Gates-Macginitie Reading Inventory, when comparing students who formerly participated in the Reading Recovery Program to students in the general population.

Procedure and Data Analysis

From the list of 173 seniors graduating in 2010, the researcher gathered a list of students who participated in the study district's Reading Recovery program when they were in Grade 1. The original intent was to randomly sample the list to provide data for analysis; however, the list generated only 24 students still remaining in the district. Twenty-one of those provided complete data sets, so the sample used for analysis was one of convenience. Also, descriptive data for the 21 RR participants were compared to district population summaries.

Null hypotheses one through three was addressed with the application of an ANOVA for the difference in means. For RR participants, Grade 5 data for Gates-

MacGinitie average score, percentile rank, and grade equivalency were compared to the same data gathered in Grade 8 and then again to the same data gathered in Grade 12.

Null hypothesis number four was addressed with the application of an ANOVA for the difference in means. For RR participants, Missouri Assessment Program communication arts data for the years 2005 through 2007 were compared to determine if any year indicated a noticeable change in assessment performance.

Null hypothesis five addressed summer reading loss by RR participants with the application of an ANOVA to the difference in grade equivalency when comparing spring measurements to subsequent fall measurements for each individual summer interval between Grade 5 and Grade 12.

Null hypotheses six through eight compared RR participant data to total population data to determine if the use of RR in Grade 1 allowed noticeable gains in reading achievement through comparison of total raw score, percentile rank, and grade equivalency measured by the Gates-MacGinitie assessment for Grades 5, 8, and 11.

Participants

The communication arts scores for all students of the study district are summarized in Table 1 for the years 2006 through 2010. This table was included to display the percentages of students scoring below basic, basic proficient, and advanced on the MAP assessment.

Table 1

Fourth Grade Communication Arts Scores 2006-2010

Content Area	*Grade*	*Type*	*Year*	*Below/Basic*	*Basic*	*Proficient*	*Advanced*
Communication Arts	4	All students	2006	13.6	49.0	24.4	13.0
Communication Art	4	All students	2007	12.0	45.0	27.2	15.8
Communication Arts	4	All students	2008	8.7	49.8	30.5	11.1
Communication Arts	4	All students	2009	9.0	52.2	29.9	8.8
Communication Arts	4	All students	2010	10.5	51.5	27.2	10.8

Table 1 contains Grade 4 MAP communication arts scores for all students in the school district. This table showed that the scores stayed in the same percentage range in each category and year. The higher percentages remained in the categories of Basic and Proficient.

Table 2

Eighth Grade Communication Arts Scores 2006-2010

Content Area	*Grade*	*Type*	*Year*	*Below/Basic*	*Basic*	*Proficient*	*Advanced*
Communication Arts	8	All students	2006	12.3	59.2	22.5	6.0
Communication Arts	8	All Students	2007	9.5	58.7	23.6	8.1
Communication Arts	8	All students	2008	6.5	63.7	22.8	7.0
Communication Arts	8	All Students	2009	7.0	57.0	27.2	8.8
Communication Arts	8	All Students	2010	6.8	58.7	24.1	10.4

Table 2 examines MAP communication arts scores for all Grade 8 students in the school district. The student scoring on a Basic level is significantly higher than the other subsections. From 2006-2010 over half of the Grade 8 students scored on a Basic level. Based on this information, there may be a few indicators that explain these outcomes. Students may be unmotivated to learn, and may have had poor instruction. The school district's curriculum and or programs may continue to change. Some students have learned the basic skills and have not gone beyond the basic knowledge or the MAP assessment itself is poorly written.

Table 3 displays the total number of RR students and the English courses that are taken during their first semester in Grades 11 and 12. Composition Courses I and II are taken in the Grades 9 and 10 to further the students' skills in reading, writing, speaking, listening, and comprehension. Literature/Composition courses are taken during the first semester in Grade 9. English IV, English III, and British-Literature Composition courses are considered the advanced English courses usually offered to honors students who are juniors and seniors in high school. Application Composition I and II are offered to students in Grades 9-12 for reading, speaking, listening, writing, and comprehension remedial instruction.

Table 3

Reading Recovery Students' High School English Courses 2009

Total Number of RR Students	Literature/Comp.	Application Comp. I & II	English IV	English III	British Literature/comp.
21	13	3	1	1	2

Table 4

School District Demographic Data 2005-2009

Year	*2005*	*2006*	*2007*	*2008*	*2009*
Total Enrollment	12,220	12,319	12,231	12,186	11,955
Asian %	9	8	9	9	8
Hispanic %	1.3	1.2	1.1	1.2	1.3
Indian %	2	2	1	1	1
White %	27	25	23	21	20
Free-reduced lunch %	57	59	60	63	64

Table 4 demonstrates the dramatic shift in the free and reduced lunch population in four years. The Black population increased 8% while the White population decreased by almost the same amount, also demonstrating the changing demographics in the district, a pattern that has continued the past 10 years in this and surrounding school districts.

Table 5

Reading Recovery High School Students' Free/Reduced Lunch Data, Ethnicity, and Gender

Total Number of Students	Male Free Reduced Lunch	Female Free Reduced Lunch	Black	White	Males	Females
21	13(62 %)	2 (10%)	18(86%)	3(14%)	16(76%)	5(24%)

Table 5 displays the number of female and male free and reduced lunch, ethnicity, and gender totals for the RR students. More male RR students receive free and reduced lunch than females. Generally more males receive RR services than females. The females in this study were obviously able to pick up reading skills and strategies and apply them throughout their educational career. The Schmitt and Gregory (2002) and Ruhe and Moore (2005) studies indicate that RR can affect graduation rates, as discussed in Chapter 2. Though not analyzed in this study, descriptive data is provided in Table 3 illustrating graduation rates for the McClendon-Wood School District in the years of 2005 through 2009. Table 6 demonstrates the large growth in population at the high school, with over 200 more students attending than five years prior.

Table 6

School District Graduation Rates 2005-2009

Year	*2005*	*2006*	*2007*	*2008*	*2009*
Total Graduates	767	759	744	835	986
Total Graduate %	93%	91%	91%	93%	94%
Black %	92%	89%	92%	93%	94%
White %	92%	94%	90%	94%	92%

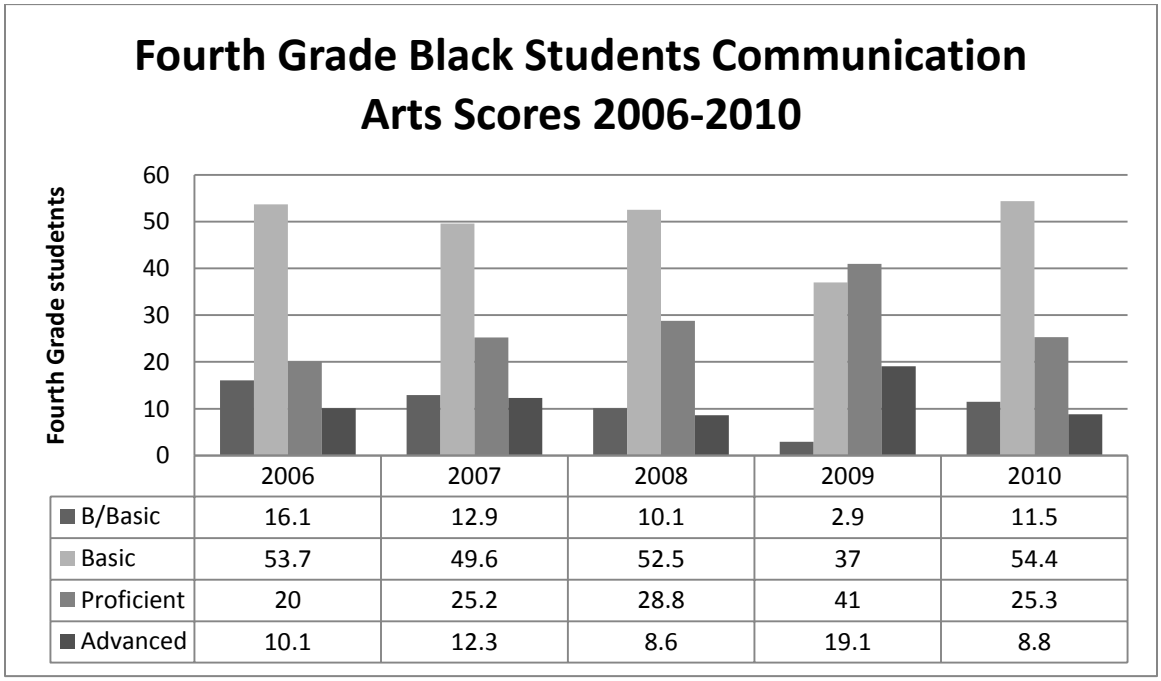
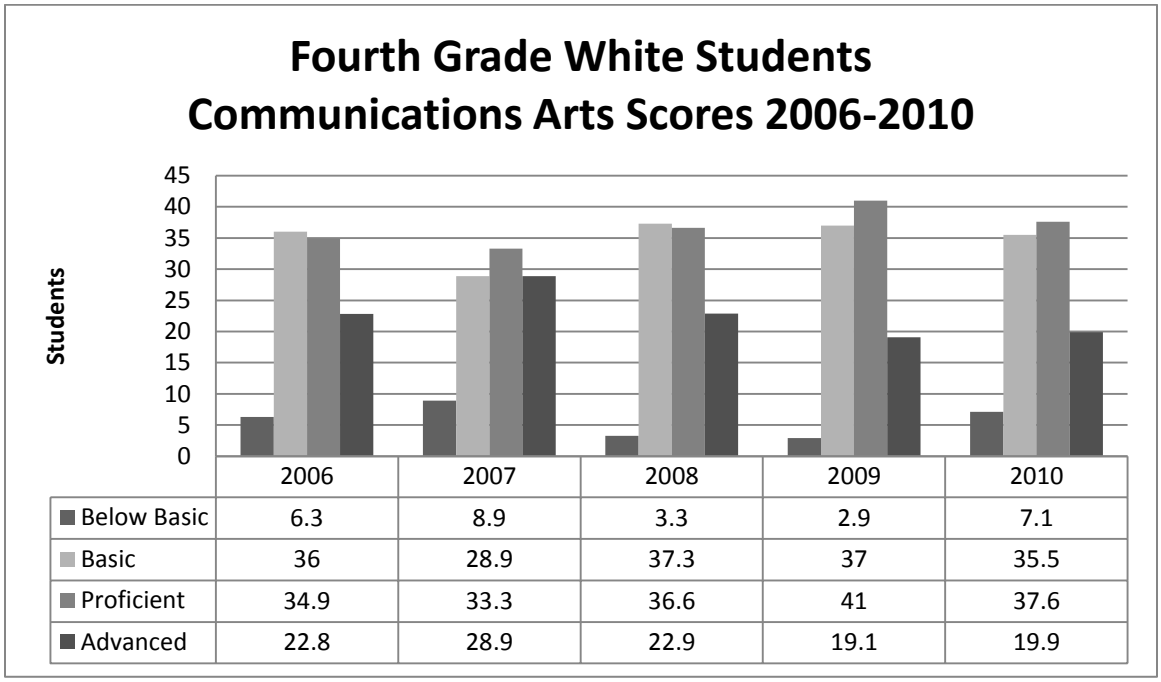


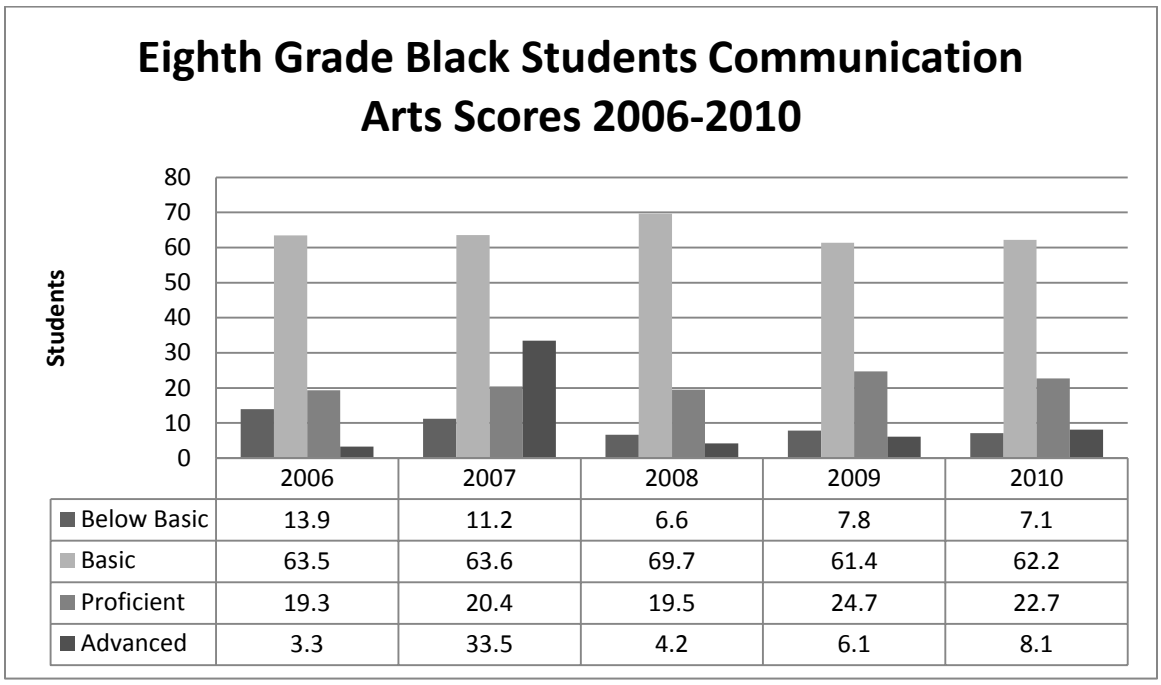
Figure 1. Fourth Grade Black students: Communication arts scores 2006-2010.



	2006	2007	2008	2009	2010
Below Basic	6.3	8.9	3.3	2.9	7.1
Basic	36	28.9	37.3	37	35.5
Proficient	34.9	33.3	36.6	41	37.6
Advanced	22.8	28.9	22.9	19.1	19.9

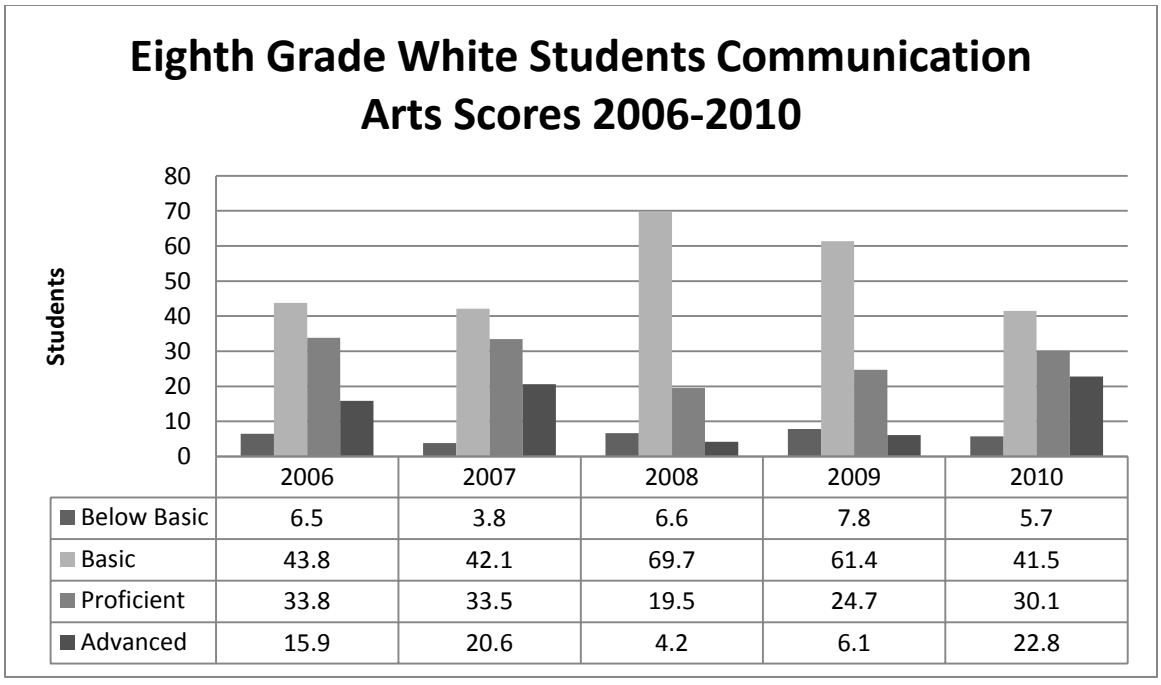
Figure 2. Fourth grade White students: Communication arts scores 2006-2010.

In Figure 2 the Grade 4 MAP communication arts scores for White students in the entire district were examined. Grade 4 White students had a significantly higher number of pupils scoring in Proficient and Advanced. However, the Black students, as noted in Figure 1, have a significantly higher number of pupils scoring on the Basic level. In the 2009 school year, the students scored higher in the Proficient and Advanced level than any other year. This particular year the teacher team-taught specific to MAP preparation for an hour daily to reinforce skills needed to become proficient on the MAP assessment. The district curriculum coordinators created pacing guides for the teachers to correlate with classroom instruction. In each elementary school building in the district, the principals included instructional aides, ancillary teachers, reading specialists, and counselors in assisting with small group work for maximum performance intervention during that hour of MAP preparation and instruction.



	2006	2007	2008	2009	2010
Below Basic	13.9	11.2	6.6	7.8	7.1
Basic	63.5	63.6	69.7	61.4	62.2
Proficient	19.3	20.4	19.5	24.7	22.7
Advanced	3.3	33.5	4.2	6.1	8.1

Figure 3. Eighth grade Black students: Communication arts scores 2006-2010.



	2006	2007	2008	2009	2010
Below Basic	6.5	3.8	6.6	7.8	5.7
Basic	43.8	42.1	69.7	61.4	41.5
Proficient	33.8	33.5	19.5	24.7	30.1
Advanced	15.9	20.6	4.2	6.1	22.8

Figure 4. Eighth grade White students: Communication arts scores 2006-2010.

Figure 3 and Figure 4 summarize results for Grade 8 communication arts for Black and White students. There are a noticeably high number of Black and White students scoring in Basic from years 2006-2010. Although, there is not a big difference in Tables 2 and 3, both races plateau across the years, but White students scored in Proficient and Advanced in greater numbers.

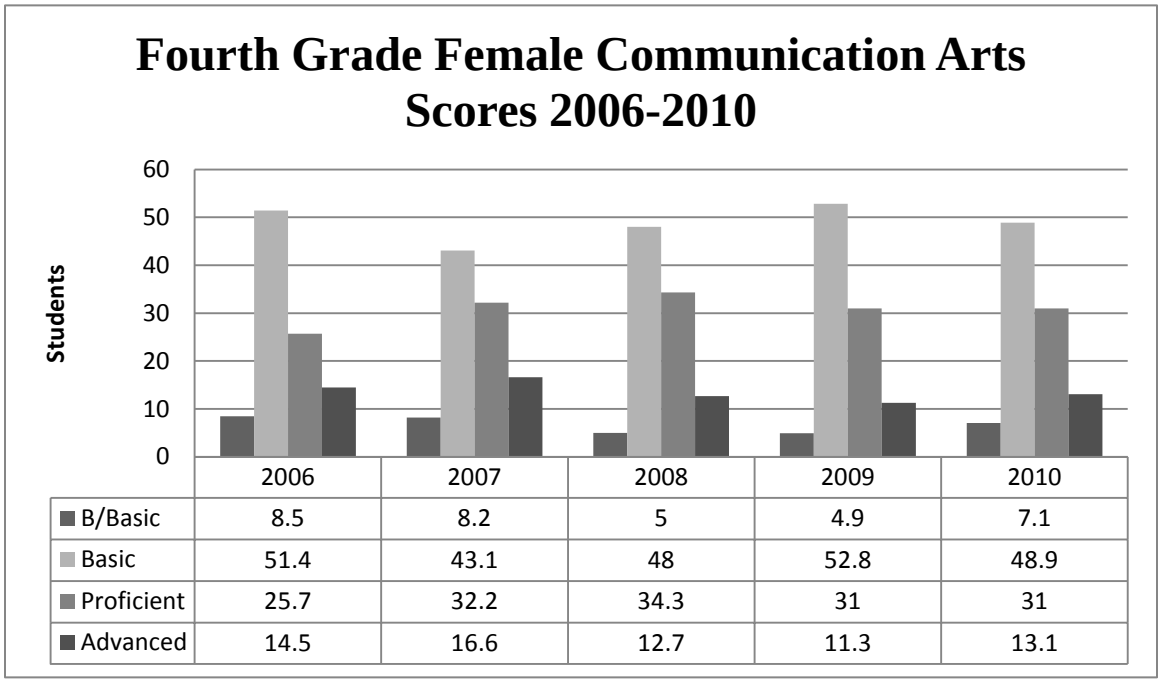
Table 7

Total number of Male and Female High School Reading Recovery Students

Total Number of Reading Recovery Students	Male	Female
21	18	3

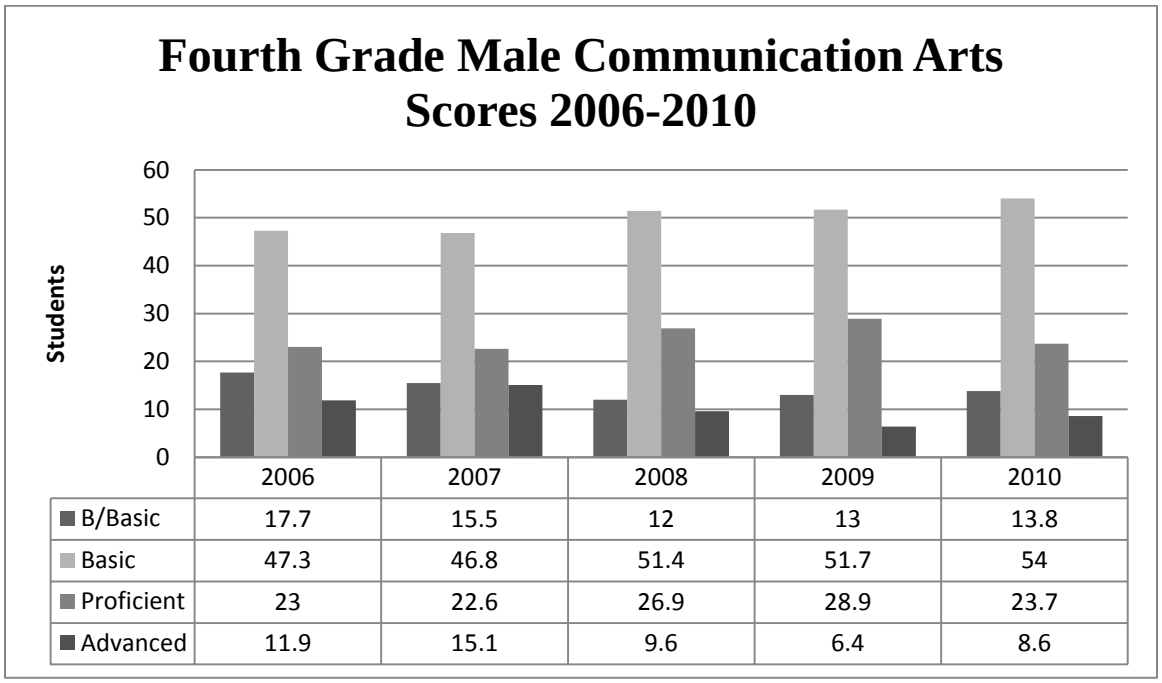
Table 7 shows that more male students participated in the RR than female. Data was gathered for 21 total High School students who received RR in the first grade.

Eighteen of those students were male students and three were female.



	2006	2007	2008	2009	2010
B/Basic	8.5	8.2	5	4.9	7.1
Basic	51.4	43.1	48	52.8	48.9
Proficient	25.7	32.2	34.3	31	31
Advanced	14.5	16.6	12.7	11.3	13.1

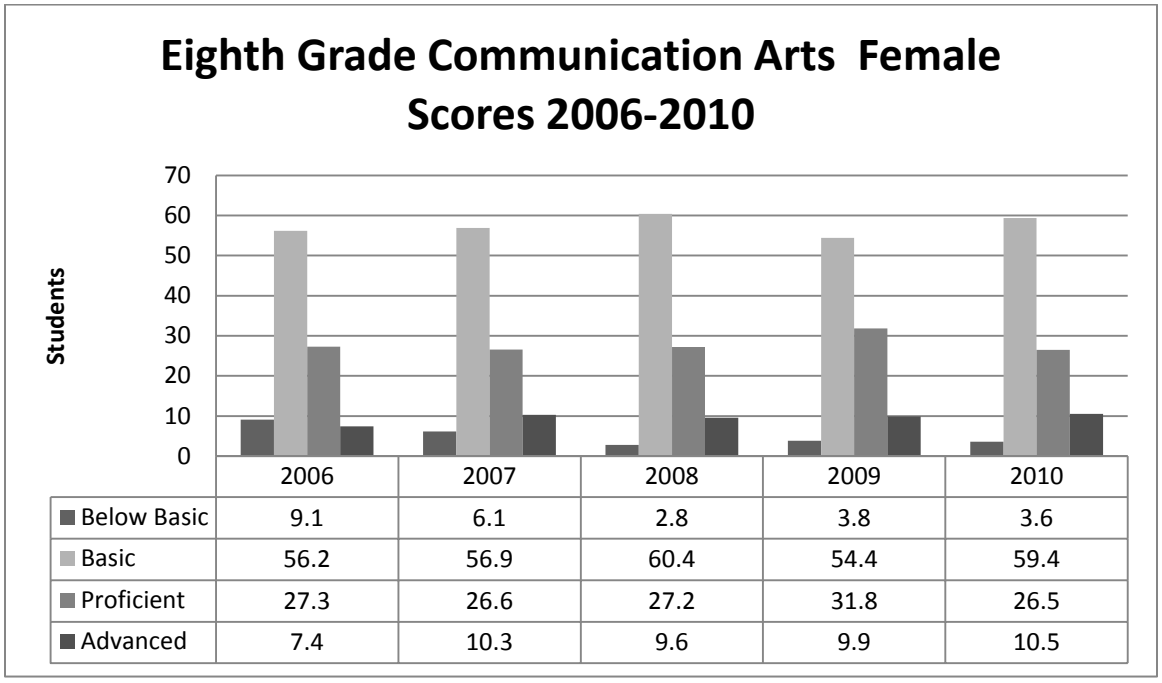
Figure 5. Fourth grade female students: Communication arts scores 2006-2010.



	2006	2007	2008	2009	2010
B/Basic	17.7	15.5	12	13	13.8
Basic	47.3	46.8	51.4	51.7	54
Proficient	23	22.6	26.9	28.9	23.7
Advanced	11.9	15.1	9.6	6.4	8.6

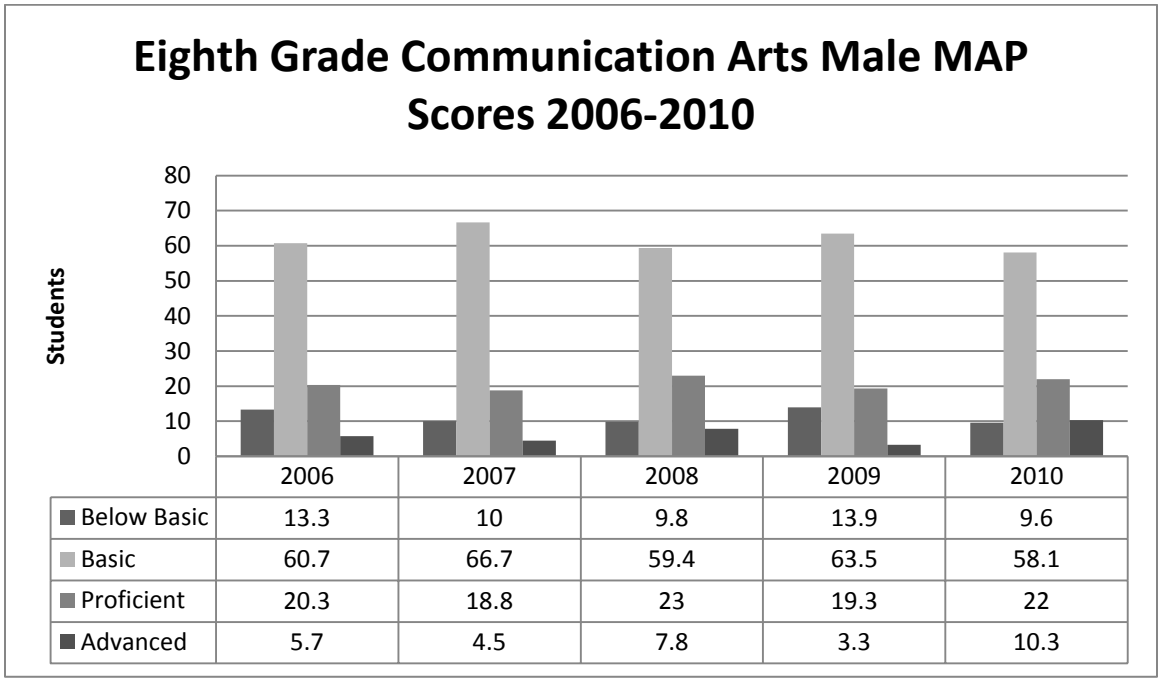
Figure 6. Fourth grade male Students: Communication arts scores 2006-2010.

Figure 5 and Figure 6 compares Grade 4 female and male MAP communication arts scores for the entire school district. Overall, both male and female Grade 4 students had a significantly high number scoring on the Basic level. As stated earlier in Tables 1 and 2, more than half of the students achieved on a Basic level.



	2006	2007	2008	2009	2010
Below Basic	9.1	6.1	2.8	3.8	3.6
Basic	56.2	56.9	60.4	54.4	59.4
Proficient	27.3	26.6	27.2	31.8	26.5
Advanced	7.4	10.3	9.6	9.9	10.5

Figure 7. Eighth grade female students: Communication arts scores 2006-2010.



	2006	2007	2008	2009	2010
Below Basic	13.3	10	9.8	13.9	9.6
Basic	60.7	66.7	59.4	63.5	58.1
Proficient	20.3	18.8	23	19.3	22
Advanced	5.7	4.5	7.8	3.3	10.3

Figure 8. Eighth grade male students: Communication arts scores 2006-2010.

Figure 7 and Figure 8 display the scores for Grade 8 MAP communication arts scores. There was little observable difference in the achievement of Grade 8 males and females.

Instruments

Data for this study was provided through district testing of students with the Gates-Macginitie Reading Assessment and MAP communication arts assessment. The purpose of the MAP assessment in Missouri is to identify the required knowledge, skills, and competencies that students have attained by the time they complete high school.

The communication arts section of the MAP test assesses reading nonfiction and fiction materials, evaluating poetry, formal writing, and identifying and evaluating the relationship between language and culture. There are three types of test items, selected response (multiple choice), constructed response (written response), and performance

event (includes a writing prompt). The sections of the MAP assessment last up 35 hours. The writing prompts and constructed responses are scored by rubrics (Missouri Department of Elementary and Secondary Education, 2007).

The purpose of the Gates-MacGinitie Reading Assessment is to assess students reading achievement in reading. The test is multiple choice and broken into two sections, comprehension and vocabulary. When scored, it gives the teacher the level of reading achievement in vocabulary, comprehension, and then a total score of both vocabulary and comprehension combined. The scores give a grade equivalency and percentile rank exam (MacGinitie W., MacGinitie, R., Maria K., Dreyer L., & Hughes K., 2006).

Summary

The purpose of this study was to determine if students who had RR were able to improve or maintain their reading achievement. The researcher examined longitudinal data to determine if students who experienced RR were more successful on assessments all the way through high school. The researcher compared data gathered from RR participants and nonparticipants to compare measurements in reading using Gates-MacGinitie Reading Assessment and MAP communication arts scores from Grades 5, 8, and 11. The tables illustrated demographical data of the student's population, graduation rates, and the individual student RR broken down into female/male, free and reduced lunch, and the English courses taken. The figures illustrated communication arts MAP scores from years 2006 to 2009 broken down by Grades 4 and 8, male, female, Black, and White. There were a high number of students scoring in the Basic level on the MAP

assessment across gender and race. The RR program in this study had overall high numbers of students who are male and receiving free and reduced lunch.

Chapter 4: Results

This study started out with an examination of a list of 173 students who participated in RR in 1999 while enrolled in the McClendon-Woods school district. Out of the 173 students, 24 of those students remained in the district; two of which had no data on file. Not all of the 24 students had consistent data starting with Grade 5 and ending with Grade 11. This research was difficult to conduct because of the mobility rate within the district. In this chapter, results of comparisons and analyses applied to data generated by RR participants over a 10-year span of time were examined.

The data for this study included demographic data such as free and reduced lunch, gender, and race; reading levels as accessed by the Gates-MacGinitie including comprehension and vocabulary scores, averages of total reading scores, and grade equivalency scores; communication arts MAP scores; end of course exam scores; and English course enrollment. This study began with an examination of Grade 5 Gates-Macginitie reading assessment scores and MAP assessment scores, and ended with examination of the data from the same students through the Grade 11.

Pre- and Post-Comparisons for Gates-MacGinitie Assessment Data

Null Hypothesis # 1: There will be no difference in reading growth achieved by students who formerly participated in the Reading Recovery Program when comparing the average change in total reading score earned by students from Grade 5 to Grade 6, Grade 5 to Grade 8, and Grade 5 to Grade 12, as measured by the Gates-Macginitie Reading Inventory.

An ANOVA single factor analysis was applied to the pre- and post-change in scores on the Gates-Macginitie reading assessment through use of data comparisons from Grade 5 through Grade 11. Table 8 indicates the F-test-value is 3.15, compared to the critical value of 3.36. Since 3.15 is less than the critical value of 3.36, the null hypothesis cannot be rejected. There is no difference in the change in total score when comparing Grade 5 to Grade 6, Grade 5 to Grade 8, and Grade 5 to Grade 12.

Table 8

ANOVA: Single Factor for Gates-Macginitie Change in Total Score

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Grade 6	10	131	13.1	142.1
Grade 8	12	263	21.91667	227.7197
Grade 11	7	24	3.428571	425.2857

ANOVA

Source of Variation	*SS*	*Df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	1537.504	2	768.7518	3.154834	0.059338	3.369016
Within Groups	6335.531	26	243.6743			
Total	7873.034	28				

Null Hypothesis # 2: There will be no difference in reading growth achieved by students who formerly participated in the Reading Recovery Program when comparing the percentile rank on total reading scores earned by students from Grade 5 to Grade 6, Grade 5 to Grade 8, and Grade 5 to Grade 12, as measured by the Gates-Macginitie Reading Inventory.

An ANOVA single factor analysis was applied to the change in percentile rank when comparing pre- and post- change for Reading Recovery participants from Grade 5 through Grade 11. Table 9 indicates the F-test value of 0.03, which compared to the critical value of 3.38 resulted in not rejecting the null hypothesis. There is no difference in change in percentile rank when comparing Grade 5 to Grade 6, Grade 5 to Grade 8, and Grade 5 to Grade 12.

Table 9

ANOVA: Single Factor for Gates-Macginitie Change in Percentile Rank

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Grade 6	11	147	13.36364	305.8545
Grade 8	10	114	11.4	222.7111
Grade 11	7	90	12.85714	506.4762

ANOVA

Source of Variation	*SS*	*Df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	21.16169	2	10.58084	0.03265	0.967919	3.38519
Within Groups	8101.803	25	324.0721			
Total	8122.964	27				

Null Hypothesis # 3: There will be no difference in reading growth achieved by students who formerly participated in the RR Program when comparing the average change in Grade Equivalency earned by students from Grade 5 to Grade 6, Grade 5 to Grade 8, and Grade 5 to Grade 12, as measured by the Gates-Macginitie Reading Inventory.

An ANOVA single factor analysis was applied to pre- and post-grade equivalency data from the Gates-Macginitie Reading Assessment for RR participants from Grades 5 through 11. Table 10 indicates the F-test value of 12.57 and critical value of 3.42. Since the test value of 12.57 is larger than the critical value of 3.42, the null hypothesis is not rejected. There is a difference in change in grade equivalency when comparing Grade 5 to Grade 6, Grade 5 to Grade 8, and Grade 5 to Grade 12.

Table 10

ANOVA: Single Factor for Gates-Macginitie Change in Grade Level Equivalency

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Grade 6	11	21.1	1.918182	1.767636
Grade 8	9	27.6	3.066667	1.645
Grade 11	6	35	5.833333	4.778667

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	59.83069	2	29.91534	12.57184	0.000204	3.422132
Within Groups	54.7297	23	2.379552			
Total	114.5604	25				

Since the ANOVA results indicated that one of the pre- and post- comparisons is significantly different from the other two, an additional ANOVA comparison was applied to data from the Grade 8 and Grade 11 results to verify that this was the timeframe where reading level growth was significant for RR participants. The null hypothesis is: There is no difference in the change of grade level equivalency in reading, measured by the Gates-

MacGintie Reading Assessment, when comparing RR participant equivalencies from Grade 8 to those of Grade 11.

Table 11 indicates the F-test value of 9.66 and the critical value of 4.66. Since the test value of 9.66 is larger than the critical value of 4.66 the null hypothesis is rejected. There is a difference in change in grade equivalency when comparing Grade 5 to Grade 8, and Grade 5 to Grade 12.

Table 11

ANOVA: Single Factor for Gates-MacGintie Change in Grade Level Equivalency
Grade 8 compared to Grade 11.

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Grade 8	9	27.6	3.066667	1.645
Grade 11	6	35	5.833333	4.778667

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	27.556	1	27.556	9.667902	0.008297	4.667193
Within Groups	37.05333	13	2.850256			
Total	64.60933	14				

MAP Communication Arts

Null Hypothesis # 4: There will be no difference in academic achievement by students who formerly participated in the RR program when comparing the average raw score in communication arts earned by students for the years 2005 - 2007, as measured by the MAP exam.

An ANOVA single factor analysis was applied to MAP communication arts scores for RR participants for the years 2005, 2006, and 2007 to determine if a particular year indicated a noticeable change in student achievement in the area of communication arts. Table 12 indicates an F-test value of 4.08 and a critical value of 3.49. Since the test value of 4.08 is larger than the critical value of 3.49, the null hypothesis is rejected. There is a difference in average raw scores when comparing communication arts MAP for the years 2005, 2006, and 2007.

Table 12

ANOVA: Single Factor for Missouri Assessment Program Communication Arts

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
2005	3	1892	630.667	212.333
2006	10	6394	639.4	639.6
2007	10	6622	662.2	308.4

ANOVA

Source of Variation	*SS*	*Df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	3657	2	1828.32	4.08259	0.0326	3.49283
Within Groups	8957	20	447.833			
Total	12613	22				

Since the ANOVA analysis indicated that one of the three years 2005, 2006, or 2007 resulted in a noticeably different average score on the MAP communication arts exam, a second analysis was completed to compare the years 2006 and 2007. The null hypothesis was, There will be no difference in academic achievement by students who

formerly participated in the RR program when comparing the average raw score in communication arts earned by students for the years 2006 and 2007, as measured by the MAP exam.

Table 13 indicated an F-test value of 5.48 and a critical value of 4.41. Since the test value is larger than the critical value, we reject the null hypothesis. There is a difference in average raw scores when comparing communication arts MAP for the years 2006 and 2007.

Table 13

ANOVA: Single Factor for Missouri Assessment Program Communication Arts Comparison of 2006 data to 2007 data

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
2006	10	6394	639.4	639.6
2007	10	6622	662.2	308.4

ANOVA

Source of Variation	*SS*	*Df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	2599	1	2599.2	5.48354	0.0309	4.41387
Within Groups	8532	18	474			
Total	11131	19				

Loss of skill over the summer

Null Hypothesis # 5: There will be no difference in summer loss of reading ability exhibited by students who formerly participated in the RR program when comparing the average change in Grade Equivalency in reading across each summer, as measured by the

Gates-Macginitie Reading Inventory for example: Grade 5 moving into Grade 6; Grade 6 moving into Grade 7; etc.

An ANOVA single factor analysis was applied to the change in grade level reading equivalency measured by the Gates-Macginitie Reading Assessment for RR participants. First, the data was prepared by subtracting the spring grade level equivalency from the fall grade level equivalency. Averages for these values were compared for each grade level through use of the ANOVA.

Table 14 indicated an F-test value of 1.84 and a critical value of 2.34. Since the test value was smaller than the critical value, the null hypothesis was not. There was no grade level yielding a noticeable change in grade level equivalency in reading. No significant summer reading loss was present.

Table 14

ANOVA to compare average reading loss/gain over the summer

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Grade 6	9	-1.9	-0.211	0.414
Grade 7	14	-5.5	-0.393	7.831
Grade 8	15	11.4	0.760	2.085
Grade 9	15	-13.8	-0.920	2.456
Grade10	13	7.5	0.577	2.904
Grade11	12	-1.2	-0.100	1.520

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	28.2117	5	5.642	1.844	0.115	2.342
Within Groups	220.261	72	3.059			
Total	248.473	77				

Comparison of Reading Recovery Participants to Nonparticipants

Null Hypothesis # 6: For each individual grade level (5 through 11), there will be no difference in reading ability, as measured by total score on the Gates-Macginitie Reading Inventory, when comparing students who formerly participated in the RR program to students in the general population.

Data for RR participants was compared to data for the student population with the application of a *t*-test for difference in means, for each grade level. To prepare the data, population averages were calculated for total score for each of the spring and fall assessments. Reading Recovery participant data averages were also calculated for total

score for the spring and fall assessments. The *t*-test for difference in means was applied to compare the population fall average to the RR fall average. Also, a *t*-test for difference in means was applied to compare the population spring average to the RR spring average.

Table 15 shows a summary of the *t*-test results and subsequent rejection or non-rejection of the null hypothesis. Overall, the null hypotheses were rejected. There was a difference in average scores; however, the reading recovery participant data was lower than the population data, for each comparison.

Table 15

Comparison of Total Score between Population and Reading Recovery Participants

Total Score measured by Gates-Macginitie								
Grade Level	Population Fall	Participants Fall	Test value		Population Spring	Participants Spring	Test Value	
5	43	29.1	-5.3	Reject	54	45.8	-1.4	Do Not
6	48	33.8	-6.3	Reject	58	41.4	-5.4	Reject
7	45	34.6	-4.6	Reject	52	39.9	-4.5	Reject
8	55	44.8	-3.3	Reject	58	45.1	-5.6	Reject
9	52	39.5	-4.4	Reject	57	47.8	-2.6	Reject
10	46	34.9	-3.5	Reject	51	38.6	-5.4	Reject
11	52	36.3	-7.5	Reject	54	34.8	-4.8	Reject

Null Hypothesis # 7: For each individual grade level (5 through 11), there will be no difference in reading growth, as measured by percentile rank in total score on the Gates-Macginitie Reading Inventory, when comparing students who formerly participated in the RR Program to students in the general population.

Data for RR Participants was compared to data for the student population with the application of a *t*-test for difference in means, for each grade level. To prepare the data,

population averages were calculated for percentile rank for each of the spring and fall assessments. Reading Recovery participant data averages were also calculated for percentile rank for the spring and fall assessments. The *t*-test for difference in means was applied to compare the population fall average to the reading recovery fall average. Also, a *t*-test for difference in means was applied to compare the population spring average to the reading recovery spring average. Table 16 shows a summary of the *t*-test results and subsequent rejection or non-rejection of the null hypothesis. Overall, the null hypotheses were rejected. There was a difference in average percentile rank; however, for each significant difference, the reading recovery participant data was lower than the population data.

Table 16

Comparison of Percentile Rank between Population and Reading Recovery Participants

Percentile Rank measured by Gates-MacGinitie								
Grade Level	Population Fall	Participants Fall	test value		Population Spring	Participants Spring	Test Value	
5	34	15.4	-5.7	Reject	47	29.3	-3.4	Reject
6	35	18	-5.7	Reject	46	32	-2.2	Reject
7	39	21	-5.2	Reject	50	26	-6.4	Reject
8	37	30	-1	Reject	44	26	-5	Reject
9	44	18	-8	Reject	44	29	-3	Reject
10	32	30.9	-0.25	Do Not	36	36.1	0.03	Do Not
11	51	30.2	-7.2	Reject	56	28.2	-4.8	Reject

Null Hypothesis # 8: For each individual grade level (5 through 11), there will be no difference in reading ability, as measured by grade equivalency for reading levels on

the Gates-MacGinitie Reading Inventory, when comparing students who formerly participated in the RR Program to students in the general population.

Data for RR Participants was compared to data for the student population with the application of a *t*-test for difference in means, for each grade level. To prepare the data, population averages were calculated for grade equivalency for each of the spring and fall assessments, RR participant data averages were also calculated for grade equivalency for the spring and fall assessments. The *t*-test for difference in means was applied to compare the population fall average to the reading recovery fall average. Also, a t-test for difference in means was applied to compare the population spring average to the reading recovery spring average. Table 17 shows a summary of the *t*-test results and subsequent rejection or non-rejection of the null hypothesis. Overall, the null hypotheses were rejected. There is no difference in average grade equivalency. In each case that indicated rejection of the null hypothesis, the significant difference noted that reading recovery participant data was lower than the population data.

Table 17

Comparison of Grade Equivalency between Population and Reading Recovery Participants

Grade Equivalence measured by Gates-Macginitie								
Grade Level	Population Fall	Participants Fall	test value		Population Spring	Participants Spring	test value	
5	3.5	3.35	-0.79	Do Not	4.5	4.32	-0.54	Do Not
6	4.4	4.2	-1	Do Not	5.4	5.5	0.2	Do Not
7	5.5	5.2	-1.1	Do Not	6.7	5.9	-2.8	Reject
8	6.3	6.5	-0.5	Do Not	7.2	6.5	-2	Reject
9	7.6	5.9	-4	Reject	8.2	7.24	-1.7	Do Not
10	7.4	8.4	1.93	Do Not	8.2	9	1.92	Do Not
11	10.5	8.76	-4.41	Reject	12	8.49	-4.98	Reject

Summary

This study started out with an examination of a list of 173 students who participated in RR in 1999 while enrolled in the McClendon-Woods School District. Out of the 173 students, 24 of those students remained in the district; two of which had no data on file. Not all of the 24 students had consistent data starting with Grade 5 and ending with Grade 11.

This research was difficult to conduct because of the mobility rate within the district. In this chapter the results of comparisons and analyses applied to data generated by RR participants over a 10-year span of time was examined. Overall, there were not any noticeable differences in the RR participants Reading Assessment scores when compared to the entire student population. The statistical tests that were utilized to determine this information were a single factor ANOVA, *f*-test, and *t*-test.

Chapter 5: Discussion and Recommendations

This quantitative study analyzed the relationship between students who received RR and compared their MAP scores, Gates-MacGinitie scores, and End of Course Exam scores school district reading averages to students who did not. The primary comparison group consisted of students who attended one of the 17 elementary schools in Grade 1 in 1999. The secondary group included the entire school districts averages for reading and communication arts scores. The dependent variable was academic performance on district assessments as well as gender, high school English courses, and free-reduced lunch status. These specific measures, inclusion of MAP tests (communication arts), Gates-MacGinitie Reading Assessment (vocabulary and comprehension totals), and End-of-Course exams (communication arts) were intentionally selected as a result of their level of reliability and validity reflecting performance toward proficiency on identified state standards. The researcher chose these measures because many educational venues outside of this district utilize these assessments to evaluate individual student performance.

Discussion of Results

Out of 173 reading recovery students, only 24 students continued in the district from fall 1999 to present. The data is very inconsistent since not all of the RR students had reading and communication arts assessment data from Grade 5 to Grade 11. The students who had the most data were the students who stayed in the district first through Grade 12. A total of six students remained on grade level in reading. However, most of the RR students who had Basic or Below Basic End of Course exam scores. Only three

students scored on the Proficient level. A total of 13 students out of 24 had Total Grade Equivalency Post Gates-Macginitie comprehension and vocabulary scores. This means that 54% of the students had Gates-Macginitie scores for Grade 5 and 46% did not have a reported score. There could have been multiple reasons why these scores were not reported: absentees, illnesses, transferring from another district, etc. The Gates-Macginitie grade equivalency scores for the Grade 5 showed that 24% of the RR group that was examined on average was one to three grade levels below, and only 2% read on level and above. The majority of the Grade 5 students were not reading on level by Grade 5. As students progressed into higher grade levels their Gates scores did increase each year, with a few exceptions of students regressing in Grades 6 and 7 and getting on track in Grade 8. Due to the high mobility rate in the school district, MAP Scores for the students were sparse. More students from the RR group produced MAP scores in the years 2006-2007. There was 66% who took the test in 2006 and the other 36% did not have a reported score. Out of that 66%, 2% scored Below Basic, 4% Basic, and 1% Proficient. In 2007, 66% MAP scores were reported. None of the RR students scored Below Basic, 6% scored Basic, and 1% Proficient, which proved from 2005-2007 the students made progress each year on the MAP test. A majority of the group remained on a Basic level, which is the target group for RR. Reading Recovery's goal is for students to remain on average with their peers.

For the grade levels analyzed in this study, the Gates-Macginitie Reading Assessment was administered in the fall and then again in the spring. Pre- and post-

information was analyzed to address noticeable changes in individual student performance.

Individual gains in reading achievement total score were noticed in Grades 6, 8, and 11. In Grade 6, four students made gains of 23, 23, 24, and 28 points. In Grade 8, two students made gains of 30 and 47 points. In Grade 11, two students made gains of 11 and 25 points.

Regarding percentile rank in reading achievement, individual gains were noticed in Grades 6, 8, and 11. In Grade 6, two students changed their percentile ranks by 30 and 36%. In Grade 8, two students changed their percentile rank by 36 and 39%. In Grade 11, one student yielded a 41% change in percentile rank. The largest gains in grade equivalency were demonstrated in Grade 11. Two students demonstrated a gain of 8.0 and 8.1 grade equivalency points throughout the year.

Summer reading loss was analyzed by examining the grade equivalency in reading gains or losses when comparing the fall assessment to the previous spring assessment. In movement from Grade 6 to Grade 7, one student yielded a reading grade equivalency loss of one year in grade levels. In movement from Grade 10 to Grade 11, one student yielded a loss of two grade levels, three students yielded noticeable gains that showed a two grade level increase from 6^{th} grade 4 months, to 8^{th} grade 3 months, and 8^{th} grade 8 months to 12^{th} grade 5^{th} month.

For individual student results, in Grade 6, one student achieved a 99th percentile rank in reading. One student achieved strong percentile rankings in Grades 9, 10, and 11 of 70, 64, and 69. Two students consistently scored low percentile rankings across all

grade levels. Other students from the RR participants achieved percentile rankings that moved up and down, without pattern.

The information gained from this study helps inform researchers and districts to make decisions as they review the concerns and benefits in connection with children and how to effectively serve their needs.

Fidelity of Implementation at the Research Setting

Reading Recovery is part of a comprehensive program which means that all teachers should be included in the professional development. In other words, all teachers did not receive RR training. The teachers who were selected for RR were mainly teachers who were reading specialist degreed or had some sort of background in modeling effective reading strategies. Therefore, long term results will not be as favorable as should be. The program was not put together as designed due to the Reading Series (Rocket Reading Series) that was implemented at that time. Reading Recovery was suggested as an additional supplemental intervention in 1997 by the reading coordinator to compliment the reading program already in place to reach the lowest of the low students versus placement in Special School District. The RR program was not implemented as a comprehensive literacy program. The portions that were implemented were proper standards and rationales for student selection, practical issues contributing to efficiency (space, scheduling, time allocation, and materials), and RR school teams. Each school in our school district had at least two RR teachers. When Reading First became a part of the district's reading curriculum, the RR teachers had to change their philosophy on how reading is taught. Reading Recovery does not mesh with Reading

First. Now the district reading curriculum has changed from Reading First to Mastery Learning.

Last school year (2009-2010), the district made the decision to remove reading teachers from each of the 12 elementary schools due to budget cuts. The reading teachers with less seniority were assigned various classroom positions depending on certification. Some elementary buildings were able to keep RR teachers as well as reading intervention specialist teachers. The number of students in the building determined the number of reading specialists. For example, the building that the researcher worked closely with was assigned one reading specialist. This teacher is also RR trained and was told to continue implementing RR. This meant that other students in this particular K-6 building would not have the opportunity to receive Title I reading services. Title I reading is a federally funded grant program provided by the United States government for disadvantaged students and districts to improve academic achievement. Title I teachers are not able to service students who have Individualized Education Plans (IEPs) because those students have legal binding documentation, which allows them to receive a specific amount of minutes daily for instruction in additional to intervention. If the students do not have reading as a goal for intervention in their IEP, then those students can receive Title I services. In order to have long term success with any reading program, school leaders and educators must have ongoing support for each grade level. Many other studies have proven RR to be successful when teachers as well as reading specialists are properly trained with continuous professional development. However, this did not occur in the McClendon-Woods district.

Recommendations for Research Setting

For similar studies to be successful, the researcher must have a way to access students' data even if they leave the district. A state-wide system of data collection would be ideal, so if a student moves from one district to another, his or her data can still be accessed. Interventions such as RR must be studied long term in struggling districts with high mobility rates, but this is difficult if students cannot be tracked once they move. This is true of any intervention program, not just RR. A suggestion is to have RR teachers and coordinators within the district conduct a district-wide professional development for K-8 teachers, on how to incorporate reading strategies in the classroom for small groups. If the teachers are speaking the same language across the board concerning reading strategies and instructions, perhaps the achievement levels for reading will increase. Within the last six years, the district has incorporated a reading specialist for each building on the secondary level. In speaking with teachers on the middle and high school level, there is a lot of individuality and no collective collaboration processes. Each teacher is comfortable with working separately. Most of the educators have great ideas but are not on the same page, thus increasing the achievement gap. Consistency and effective collaboration is the key to success; all reading programs in the district should have a spiral effect that includes familiarity for students and not a different program from year-to-year.

School districts across the nation are seeking various options for increased student achievement and closing the gap. The researcher believes the implementation of RR as a comprehensive program for all students can be viewed as a supplementary intervention,

in conjunction with a reading program that guarantees achievement far beyond the average level. The limitation of this study was that the school district did not have data to show where the students who were in RR in Grade 1 went or how they are doing academically. Another limitation was data does not show whether they went to summer school and why their reading scores fell behind over summer break.

Recommendations for Future Studies

Future studies could be conducted in a rural, suburban, and a non-traditional school (charter schools, and private schools) setting to have a comparison to other school districts with different demographics and mobility rates. As opposed to the McClendon-Woods district, rural areas have only one or two feeder schools. When any program is being implemented in a large number of schools, there will be inconsistencies.

The researcher originally intended a causal/comparative design to compare like groups of students, one that had RR with one that did not have RR. This was not possible because of the small numbers of students who remained in the district throughout their academic career.

This study could easily become a mixed-method research study using a quantitative and qualitative approach. Students and teachers could be interviewed to explore their perceptions about reading as well as their parents, to see if RR made an impact with their learning experience. Results from this study might be strengthened through following the same group of participants from Grade 1 through graduation and comparing the results to another school district with similar demographics. In addition, the research could have been strengthened had the researcher collected data for RR

students who may have discontinued the program. Perhaps the researcher could have used student data from students who attended the same elementary, middle, and high school, interviewed those students, classroom and RR teachers at various points throughout the process.

An additional factor that might lend tremendous credibility to the study is a closer examination of the mobility rate of the school district and factors that may hinder the greatest results in student performance. The researcher simply categorized all students from the year 1999 to 2010 into three categories. It would have been interesting to evaluate the variance in performance of the participants who took various teacher-made on-going assessment models. The researcher would also like to find out if this group had long-term reading intervention, meaning did the students continue to receive reading intervention throughout their educational career. To extend the research, the examiner should conduct a study that researches the effects of teachers' teaching ability with their preference for and perceived usefulness of RR with their students' academic achievement.

Parent interviews could have been an addition to this study. The feedback from parents would have imposed a greater discussion on the effects of how RR increased or decreased their child's reading abilities. The parent interviews would have provided information of how the school district communicates with parents regarding their children's academic achievement and how they educate them about the RR program. Often, during parent-teacher conferences, parents are more focused on the homeroom teacher and not the reading specialist because the specialist does not assign grades.

Overall, it could be beneficial to researchers to gather more perspectives from this group in future studies.

Implications

Reading Recovery is designed to service the lowest achieving children in the school. The program will bring those students up to the average level of their classrooms. In an effort to make progress towards meeting criteria of 100% proficiency for all students by the end of the school year 2014 (a target set by NCLB), school districts need to regularly examine and or invest in programs that result in long-term success, decrease the achievement gap, and incorporate programs that are comprehensive meaning all-inclusive on-going professional development.

As discussed earlier in Chapter 2, children with high quality preschool experiences that focus on language development and literacy are more likely to develop strong language and literacy skills that transfer into achievement in the early grades and throughout their schooling. Research indicates that these students are less likely to be retained in K-Grade 3, have higher graduation rates from high school, and less behavior problems. In efforts to improve student achievement, the McClendon-Woods district continued to implement curriculum and strategies to meet individual student needs. The literature review offered support for the indication that students who received early literacy intervention performed at higher levels than those who did not have any experience with early literacy. According to the literature review, school districts may need to focus on the process of how reading skills and strategies are transferred into the upper grade levels. Do teachers continue to use the same language or reading terminology

in their regular classroom as they do in RR instruction? Does the reading program change each grade level? Does the reading curriculum spiral or transfer to the next grade levels? How much home assistance was involved in students' reading process? These are some questions to which some researchers and district leaders may want to find the answers.

The literature review in Chapter 2 can be used by school administrators, principals, and teachers to compare their own instructional strategies and method of teaching reading with components that other researchers in this study recommended. The topics in this study can be components for discussion in staff development meetings and parent meetings as well. A survey can be developed based on teacher and parent perceptions before meetings and discussion take place to direct conversations. Student achievement is not only gained in the classroom but with every teacher-student encounter and experience in a school setting.

Conclusion

This quantitative study was conducted to assess RR. To accomplish this study, student performance on a reading and communication arts assessment items specific to each grade level in Grades 5-11 were evaluated. This data was collected during the 2010-2011 school year. The comparison group was students who participated in the RR program in Grade 1. The secondary comparison group was the entire school district's average reading scores for each grade level. The MAP, the Gates-MacGinitie Reading Test, and the End of Course Exams were the measures used to evaluate student achievement. The analysis of data revealed that there was no difference in the average

student scores when comparing average change in total reading scores, percentile ranks, grade equivalency, and raw scores on the communication arts MAP assessment, for Grade 5 to Grade 6, Grade 5 to Grade 8, and Grade 5 to Grade 12. Some individual averages were significantly different. Overall, there was no difference between the average RR students when compared to the average of the total school population. The findings were inconsistent with Pinnell's 1989, and Schmitt and Gregory's 2002 studies highlighted in the earlier literature review. The earlier studies included the comprehensive approach to the RR intervention, most of their classroom teachers were trained in RR as well as reading specialist certified.

Academic performance expectations in the school system continue to raise the bar for students. The expectation is that all students achieve at a level of proficiency. This means that rigorous demands are being placed upon early intervention programs in hopes to close the achievement gap. The better the early literacy experience, the better the student achievement.

Researchers should investigate if programs have been evaluated for shortcomings and cost effectiveness. At the conclusion of examining the relationship between the RR students and the whole district population, the researcher believes that the district has enough information to begin to make an informed decision about the program that would result in a better fit for the intended population. School district administration would need to take the necessary time to make an educational decision on their investment, and collect various perspectives from elected community members (board members).

This quantitative study analyzed the relationship between students who received RR and students who did not based on MAP, Gates-Macginitie, and End of Course Exam scores. The primary comparison group consisted of students who attended one of the 17 elementary schools in Grade 1 in 1999. The information gained from this study may help researchers and districts to make decisions as they review the concerns and benefits in connection with children and how to effectively serve their needs.

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Vitae

Ingrid Danielle McClendon is currently a fourth grade teacher in the Ferguson-Florissant School District. She has been teaching for a total of 10 years and a reading specialist for the past four years. College educational experiences include the following: Harris-Stowe State College, Bachelors of Science Elementary Education (2000), Masters of Arts in Teaching, Fontbonne University (2002), Masters of Arts, Educational Administration, Lindenwood University (2007), and Ed.D. in Educational Administration (Superintendent) expected in 2011. Ingrid's teaching career began in the Wellston school district teaching an eighth grade summer school class. Her next assignment in the Wellston school district was a reading teacher and tutor, and lastly a third grade classroom teacher.