ABSTRACT

Effects of the Implementation of the "Rally to Read" Program:
A Tier 3 Approach within the Response to Intervention Process

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This study was a mixed-method, quasi-experimental investigation that evaluated the implementation of the "Rally to Read" remediation program, designed by the Center for Learning and Development (CLD), as a Tier 3 intervention method within the Response to Intervention (RTI) process. This study compared the progress of a Tier 3 student group on Campus A, who received "Rally to Read" services, with the progress of a Tier 3 student group in a nearby school, Campus B, who did *not* receive "Rally to Read" services, during the 2008-2009 school year.

The Tier 3 student groups in these two schools were compared based on achievement on the Imagination Station (I-station) progress monitoring program. Comprehension and fluency scores from the I-station program were the primary methods of gauging Tier 3 progress for these two schools. The researcher analyzed and compared I-station usage time and student disciplinary referral averages between these groups. In addition, the teachers who were involved with the "Rally to Read" program provided survey feedback of their perceptions of the program. Their responses were analyzed in

five categories: adult program training, program effects on student behavior, program curriculum, adult relationships with students, and overall program effectiveness.

As a whole, the “Rally to Read” program was shown to be a successful Tier 3 intervention on Campus A of this study. Quantitative data demonstrated statistically significant differences for the I-station assessments and I-station usage times. Responses from the adult participants in the “Rally to Read” program supported the “Rally to Read” curriculum, relationship-building elements, program training, and overall program performance. The academic and behavioral accomplishments of the students on Campus A also spoke to the validity and reliability of the “Rally to Read” program.

Effects of the Implementation of the "Rally to Read" Program:
A Tier 3 Approach within the Response to Intervention Process

by

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A Dissertation

Approved by the Department of Curriculum and Instruction

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of
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CHAPTER ONE

Introduction

Response to Intervention (RTI) is an assessment and intervention model that incorporates differentiated instruction, various intervention methods, and multiple assessment tools in order to help maximize student achievement in public schools. RTI is implemented using school-based methods of academic intervention in order to provide early assistance to students with learning deficiencies. The RTI process is designed to address academic learning needs, but it is also a system for recognizing and correcting students' academic and behavioral problems. Elliot (2008) stated regarding the RTI process that, "this approach is not about placing the problems within the student, but rather examining the student's response to instruction and intervention" (p. 10). Elliot (2008) explained how crucial it is to student learning to provide the correct and most effective intervention methods for reading instruction. At the same time, RTI is primarily aimed at assisting students in the elementary school setting. RTI focuses on increasing student achievement with regard to basic skills and learning abilities. Although this model is helpful for secondary students, the concept suggests more success for older students if their needs are addressed at a younger age.

In Texas, the RTI model is implemented under the supervision and direction of the Texas Education Agency. Public schools are required to adopt local instructional programs and approaches in order to help meet the needs of struggling learners. In addition, school districts are required to use scientifically based research in order to validate curriculum and teaching methods related to the RTI model. Public schools and

districts must also follow the necessary state and federal mandates related to RTI and student success. Principals, counselors, teachers, paraprofessionals, diagnosticians, and central office personnel are all responsible for the effective implementation of the RTI process. The National Center on Response to Intervention as well as the Response to Intervention Coordinating Council (RtiCC) are recently formed organizations designed to help local education agencies initiate and implement the Response to Intervention (RTI) process. The most well known education entity in Texas, the Texas Education Agency (2009), focuses on four key elements in its definition of RTI:

> RTI may be described as a model addressing the needs of all students through a continuum of services which provide: 1) high quality instruction and scientific research based tiered interventions aligned with student need; 2) frequent monitoring of student progress to make results-based academic or behavioral decisions; (3) data-based school improvement; and (4) the application of student response data to important educational decisions such as those regarding placement, intervention, curriculum, and instructional methodologies. (p. 4)

These key components of RTI allow educators to focus on reading, writing, math, or behavior issues related to student learning and academic growth. For the current study, the subject of reading progress was addressed in relation to struggling learners in two Texas schools. Research-based programs designed to identify and address reading deficiencies have become necessary interventions for the success of the RTI process.

Elliot (2008) noted that this new process mandated by TEA, known as Response to Intervention (RTI), requires school personnel to implement a multi-tiered process in order to help meet the needs of struggling learners. For reading instruction, RTI involves a research-based approach at helping students succeed through each level of the process. Teachers who identify struggling readers will recommend that the students receive Tier 1 services in the classroom setting. These Tier 1 services encompass high quality

classroom instruction that is aligned with the Texas Essential Knowledge and Skills (TEKS). Tier 1 instruction is designed to address the learning needs of 80% of students. Hence, 80% of learners will usually fall into the Tier 1 category of the RTI model (McCook, 2006). Many schools use class-wide intervention strategies, push-in assistance, or computer-based resources such as "Imagination Station" for Tier 1 of the RTI process. "Imagination Station" is an online integrated assessment tool used for the progress monitoring of early reading skills. This program, also called I-station, is approved by the Texas Education Agency as a recommended assessment for struggling readers. This computerized assessment tool was utilized for progress monitoring specific groups of students throughout this study. In the RTI process, if a student is unsuccessful in Tier 1 after 4-6 weeks, then he or she is elevated to Tier 2 for more intense reading interventions (McCook, 2006; NASDSE & CASE, 2006).

McCook (2006) noted that Tier 2 interventions typically involve pull-out assistance in some form of a small group instruction (a ratio of 1:5-10). Tier 2 students usually spend 20-30 minutes per day in small group instruction in addition to receiving their continued instructional services through Tier 1. Tier 2 interventions may involve computer programs from auxiliary assessments (in addition to programs such as I-station) in order to help address students' reading deficiencies. These students also have the opportunity to receive small group instruction with other Tier 2 struggling students. Students in this Tier should comprise approximately 10-15% of the student population, and they are progress monitored bi-monthly to ensure appropriate learning and placement (McCook, 2006; NASDSE & CASE, 2006). If these services are not effective and/or

students are not responding to Tier 2 interventions, then these students will be moved to Tier 3 of the RTI process after an additional 4-6 weeks.

Tier 3 student assistance identifies students with specific content area deficiencies who have not responded to Tier 1 or Tier 2 interventions. These students receive more intense, individualized instruction (a ration of 1:3). They spend approximately 45-60 minutes in individual or small group instruction in addition to receiving their continued instructional services through Tier 1 and Tier 2 interventions. Students in Tier 3 should comprise approximately 1-5% of the student population (McCook, 2006; NASDSE & CASE, 2006). Tier 3 students are progress monitored weekly. Instructional interventions in Tier 3 should be custom-designed for the individual students. Therefore, schools are required to offer Tier 3 intervention strategies and programs that are unique and effective in order to meet the needs of these individual students (McCook, 2006).

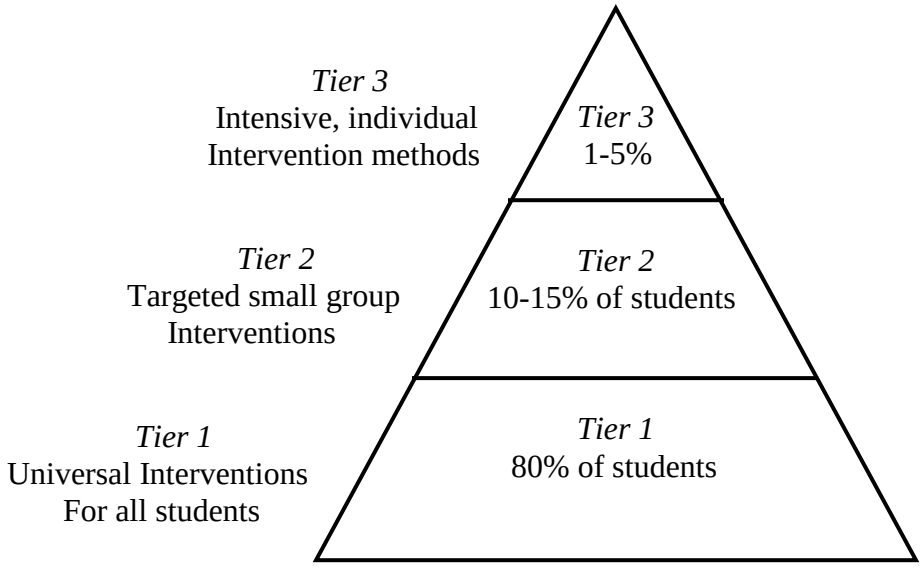

Figure 1. Response to Intervention (RTI) Multi-Tiered System

The target school in this study, Campus A, utilized the "Rally to Read" program as a reading intervention in Tier 3 of the RTI process. One of the main, underlying struggles with reading instruction in public schools involves how to identify and address the specific reading deficiencies of struggling readers. "Rally to Read" was designed to identify the specific area of a student's reading difficulty through progress monitoring and pre/post assessment interventions. Once a student's reading deficiency has been identified, the "Rally to Read" program addresses that need on a practical level. The "Rally to Read" program was created by the Center for Learning and Development (CLD), a service division of Behavioral Health Institute, located in Waco, Texas. "Rally to Read" is an intensive reading remediation program built upon research by the National Institutes of Health. "Rally to Read" is primarily technology-based, and it incorporates five skill areas: phonological awareness, phonics, fluency/rate, vocabulary, and comprehension. The RTI process is designed to help educators identify students' academic weaknesses and address those areas directly. In this study, the "Rally to Read" program was used as the primary intervention method for Tier 3 struggling readers.

Purpose of the Study

The purpose of this study was to determine the effectiveness of the "Rally to Read" program, designed by the Center for Learning and Development (CLD), as a Tier 3 intervention method within the Response to Intervention (RTI) process. As a whole, the RTI model is used to determine which students will enter Tier 3 for reading intervention during the school year. As a result of state and federal mandates, public schools are searching for intervention methods for Tier 3 students that are reliable and scientifically research based (NCLB, 2002, Sec. 1208). In most cases, students who

receive Tier 3 services have been a part of an extensive process using multiple intervention strategies. These students are placed in Tier 3 because they have not responded appropriately to Tier 1 or Tier 2 interventions. In this study, the "Rally to Read" program was an attempt to address individual learning needs in the area of reading for students in Tier 3.

The "Rally to Read" program was implemented as a Tier 3 intervention in a Texas school, Campus A, with over 640 students. A small percentage of these students received "Rally to Read" services in Tier 3 throughout the 2008-2009 school year. This study compared the progress of Tier 3 students on Campus A, who received "Rally to Read" services, with the progress of Tier 3 students on Campus B, who did *not* receive "Rally to Read" services. These Tier 3 student groups from both campuses were progress monitored and assessed four times per semester using the "Imagination Station" (I-station) assessment program. As stated earlier, "Imagination Station" is an online integrated assessment tool used for progress monitoring students in order to determine early deficiencies in reading comprehension. This I-station program is one of the few intervention methods in Texas that has been approved by the Texas Education Agency as a recommended assessment for struggling readers. "Imagination Station" scores served as the dependent variables in both schools for this study.

Statement of the Problem

Public schools often struggle to obtain effective, individualized intervention strategies to address the needs of Tier 3 students. Most schools utilize small group and individual student assistance in order to address the learning needs of struggling learners. Some schools incorporate computerized programs, push-in assistance, or additional

personnel in order to help students who struggle in reading. The RTI process is designed to assist students who struggle in particular subject areas. Reading comprehension is the most significant area in which teachers are implementing RTI. The recent implementation of RTI is due to the increased number of students who struggle in reading (Texas Education Agency, 2009). The dilemma of addressing learners' struggles with reading comprehension involves a variety of issues including student backgrounds, teacher preparation, reading programs, and reading intervention strategies. In addition, students' reading deficiencies are prevalent in low-income schools with students from economically disadvantaged backgrounds.

Diane Ravitch has argued about the quality of reading instruction in public schools in her work, *Left Back*. Ravitch (2000) stated that, "in teaching reading, progressive educators warned against 'too early attention to the alphabet, phonics, or word analysis'…the abandonment of oral reading has changed the daily life in public schools" (p. 252). Ravitch (2000) continued on the topic of reading instruction by explaining the need for more specific and child-centered instruction in the area of reading. Struggling learners need to have his or her needs identified and addressed according to their developmental level in order to see appropriate levels of success. In addition, Moats (2009) has maintained that teachers will need to have a strong, fundamental knowledge of language structure, reading development, and differentiation in order to meet the needs of students who struggle in reading (p. 379). Hoffman, Maloch, & Roller (2007) have also supported this notion for the increased effectiveness of reading instruction. They stated that, "We see the need for more large-scale studies that trace the effects of teacher preparation in reading on the experiences of teachers and

on student learning" (p. 280). As a whole, teachers in public schools need a system of identifying and monitoring students' academic struggles, progress, and successes in the area of reading. This is where the RTI process for reading becomes involved in the public school arena.

This growing problem in education involves the selection and implementation of programs and interventions for learners who struggle in reading. Creating and marketing research-based computer software is a growing field in the United States due to the need for these programs within the RTI process. In this study, the students in Tier 3 of the RTI process were the students within these schools who displayed the most difficulties in reading comprehension. As shown within RTI, it is much easier for educators to identify struggling readers than to address the individual reading difficulties of these students on a daily basis. The "Rally to Read" program was a proposed Tier 3 intervention to help address this growing problem in Campus A of this study.

Research Questions

The "Rally to Read" program was designed by the Center for Learning and Development (CLD) as an intense, individualized reading remediation program. "Rally to Read" is primarily technology-based and incorporates five skill areas: phonological awareness, phonics, fluency/rate, vocabulary, and comprehension. This reading program was designed to target students who struggle in reading comprehension and decoding. This program can be implemented with individual students as well as small groups in the public school setting. According to the National Reading Panel (NRP), programs that effectively address reading deficiencies require five key components: learning phonemic awareness, phonics rules, vocabulary, comprehension, and fluency. These five

components were the research based background for the design of the "Rally to Read" program. Also, "Rally to Read" attempts to incorporate the student's love and desire of reading. "Rally to Read" integrates all of these components in order to help foster a love of reading for the students. "Rally to Read" was originally designed to allow for differentiation and student movement from one skill area to another during instruction.

The primary research question for this study was:

1. *Did the "Rally to Read" program in Tier 3 increase the achievement of struggling readers when compared to Tier 3 students in another school who were not receiving "Rally to Read" services?*

Other relevant secondary questions in this study included:

1) How did the achievement scores of students, as measured by I-station assessments, who were involved in the "Rally to Read" program, change over time?

2) Did the amount of time spent on the I-station curriculum impact the achievement of students in the "Rally to Read" program when compared to non-participants?

3) Did student behavior change, as measured by office referrals, in response to participation in the "Rally to Read" program?

4) What were the perceptions of teacher and staff who supervised the "Rally to Read" program?

5) Did teacher backgrounds and training affect the implementation of the "Rally to Read" program or the achievement of "Rally to Read" students?

In this study, the students' achievement and reading comprehension resulting from "Rally to Read" services was measured through the "Imagination Station" online progress

monitoring system. Students who received "Rally to Read" services in this study had already received intense Tier 1 and Tier 2 services. Therefore, they continued to use these services in Tier 3. By nature of the Tier 3 design, the "Rally to Read" students on Campus A of this study were a smaller group of students than any other Tier of the RTI process.

Significance of the Problem

Currently, there is a growing body of research (Catts, Petscher, & Mendoza, 2009; Elliot, 2008; Hirsch, 2006; Moats, 2009; Ravitch, 2000) that has indicated a need to address reading deficiencies in public schools. Students' reading deficiencies are prevalent in low-income schools with students from economically disadvantaged backgrounds. More specifically, reading comprehension comprises a variety of complex material and understanding that is more difficult for some young learners. Efficient reading incorporates an understanding of vocabulary, local language, context clues, grammar, spelling, prediction, and basic phonemic awareness. Oftentimes, a student's background or culture may inhibit him or her from having a clear perception of these basic fundamentals of reading in the classroom.

The RTI process for reading education requires teachers to demonstrate high-quality, scientifically based classroom instruction. School-wide universal screenings currently exist in various forms in public schools (ex. GORT-4, LAC-3, I-Station, I-Steep, etc.). Teachers collect data over time and monitor the progress of student responses to specific intervention strategies. Students who do not respond well to class-wide interventions may be moved up the academic RTI Tier process. Students who significantly struggle in reading may be elevated to Tier 3. The need for stronger reading

instruction and effective reading programs at Tier 3 is demonstrated through recent research and current state-wide assessment results. The RTI process is the current state-wide method of monitoring and assessing student progress in the areas of reading instruction and reading comprehension. In this study of the RTI process and Tier 3 intervention, the "Rally to Read" program for struggling learners was the primary component. This Tier, as well as all Tiers of the RTI process, requires frequent progress monitoring and ongoing assessment. Universal screenings and progress monitoring tools are a significant part of the RTI process.

Catts, Petscher, & Mendoza (2009) have noted the effects of universal screening and its impact on students who have reading disabilities. They supported the need for student maturity and development prior to concentrated assessments of reading difficulties. The authors also supported the RTI process as a way of identifying and providing assistance to students with reading disabilities (p. 163). Hirsch (2006) has elaborated on this idea by explaining the importance of adequate reading instruction. He stated, "we now know that the relevant background knowledge needed for reading comprehension must be domain-specific in order to enable the reader to form an adequate situation model" (p. 42-43). Consequently, these authors further the fundamental assertion of reading education: struggling learners who have difficulties in reading will exist in regular education, special education, and small group populations. Hence, the RTI process has been utilized to help identify, assess, and service the needs of these students who struggle in the area of reading comprehension.

Hirsch, Kett, & Trefil (1987) elaborated on the complications involved with monitoring reading and reading instruction. They stated that, "the reader's mind is

constantly inferring meanings that are not directly stated by the words of a text but are nonetheless part of its essential content. The explicit meanings of a piece of writing are the tip of the iceberg. The larger part is composed of the reader's own relevant knowledge" (p. 33-34). This statement exemplified the fact that there are a variety of factors that contribute to reading comprehension and responsiveness. Phonemic awareness, cultural backgrounds, language, vocabulary, and fluency are all critical components of reading comprehension.

Identified students in each of these categories require progress monitoring and modified instruction throughout the school year. McIntosh, Graves, & Gersten, (2007) have supported the incorporation of the RTI process while monitoring student achievement. They noted in their recent study of English language learners, "If done well, RTI provides a series of supports and instructional safety nets to assist students in the learning process" (p. 197-198). This RTI process is also designed to help foster collaborative efforts between grade level team members. When used effectively, teachers can communicate their student and curriculum concerns more frequently due to the nature of the RTI process. RTI is specifically designed to help teachers identify the needs of struggling readers, connect with team members about their students' progress, and communicate with guardians regarding students' learning needs. This process of has become the most significant driving force for monitoring student progress in education across the country.

Methodology

This study was a quasi-experimental design aimed at monitoring student progress through RTI interventions. The "Rally to Read" program at Tier 3, which was the key

element of research in this study, served as the independent variable. The resulting scores from the I-station assessments were the dependent variables. The students chosen for this study included 11 students at one elementary school, Campus A, as well as 11 different students at another elementary school, Campus B. This study compared the progress of Tier 3 students on Campus A, who received "Rally to Read" services, with the progress of Tier 3 students on Campus B, who did *not* receive "Rally to Read" services. All of the students in this study were consistently taking Imagination Station (I-station) progress monitoring assessments throughout the school year on each campus. The teachers and staff members in this study were also surveyed regarding their participation in the "Rally to Read" process. Their comments regarding the "Rally to Read" program were noted during the analysis of students' scores and I-station assessment data collection. The students' scores were monitored as they showed progress throughout the assessment process. Their Tier 3 group scores were compared to the Tier 3 group scores on Campus B of this study. Both of these campuses were located in a school district in the central Texas region.

The I-station progress monitoring assessment was administered four times throughout each semester to all of the students in Tier 3. This was done consistently on both campuses. The progress monitoring assessments were part of the Imagination Station (I-station), and these assessments were designed to evaluate reading fluency and reading comprehension. Students in Tiers 1 and 2 of these schools also took I-station assessments throughout the school year. This was a standard progress monitoring tool throughout the RTI process on these campuses. However, the students in Tier 3 on these

campuses took the I-station assessments more frequently. This was the standard process used to progress monitor students who received reading interventions in this study.

Each I-station test offered the same questions and reading prompts that were presented in the classrooms and small group lessons for third and fourth grade. Students in Tier 1 who took the test quarterly were able to show their comprehension of necessary reading skills. Most of these students remained in Tier 1 throughout the year. This measure indicated a valid, reliable program for progress monitoring students in the RTI process. Struggling learners usually did not remain in the same Tier of RTI. The I-station program flagged these students as needing additional reading interventions. For this study, the I-station program was designed specifically for students who struggled in reading comprehension. It was used for students in all elementary grades across a wide range of PK-5 campuses. Imagination Station also offered resources within the program that allowed teachers to provide additional reading interventions for the selected struggling readers in this study. In addition, the I-station program provided appropriate interventions for students in Tier 1 and Tier 2, and it provided a data-driven evaluation of student progress.

Participants

Eleven of the Tier 3 students on Campus A received instructional services through the "Rally to Read" program. Eleven of the Tier 3 students on Campus B received instructional services *without* the "Rally to Read" program. Students on Campus B were required to move through each Tier of the RTI process in the same manner as the "Rally to Read" students on Campus A. All of the Tier 3 students on Campus A and Campus B utilized the Imagination Station (I-station) monitoring program at approximately the same

evaluation times during the school year. Both campuses utilized the Imagination Station (I-station) program in the same capacity. This program was the primary method of measuring the success of the "Rally to Read" program on Campus A. In addition, the student group on Campus A spent some time with the I-station curriculum, while the student group on Campus B utilized the I-station curriculum as its sole means of Tier 3 intervention. Hence, the primary research question for this study was: Did the "Rally to Read" program in Tier 3 increase the progress of struggling readers on Campus A when compared to Tier 3 students on Campus B who *were not receiving* the same services?

Selection of Student Groups

In this study, the students for the "Rally to Read" program were selected based on their Tier placement within the RTI process. Students on Campus A who had previously received Tier 2 services, and were not making adequate progress, were recommended for Tier 3. This Tier 3 recommendation was based on data collected by the teachers, specialists, and I-station progress monitoring components. Upon recommendation for Tier 3 services, instructional specialists on Campus A administered the GORT-4 and LAC-3 ability tests to determine if the Tier 3 students should receive "Rally to Read" services. As a result of these assessments, there were 11 students on Campus A who adequately demonstrated a need for "Rally to Read" services.

The comparison group for this study was comprised of 11 students on Campus B who also received Tier 3 interventions, but *without* the use of the "Rally to Read" program. On Campus B, Tier 3 students primarily received I-station curriculum components as part of their Tier 3 curriculum. The 11 Tier 3 students on Campus B were selected for this study based on their comprehension fluency and timed reading with

meaning rates at the beginning of the 2008-2009 school year. Students who had Tier 3 reading rates that were close to (or above) the reading rates of Tier 3 students on Campus A were selected in order to ensure equality of measurement and comparison throughout this study. These Tier 3 scores on Campus B were also selected based on these criteria in order to reduce bias and allow for similarity of assessment during the school year.

Table 1

Participant Information for Student Groups on Campus A and Campus B

Student Participant Information	Campus A	Campus B
Male	5	7
Female	6	4
White	5	7
African American	3	2
Hispanic	3	2
3rd Grade	6	6
4th Grade	5	5

Definitions of Terms

There are a variety of terms and definitions related to this study that were new to public schools, education, and academia. Many of these programs were new to central Texas as well as educational practices across the country. Some of the terms for this study included:

1. *Response to Intervention (RTI)* – an assessment and intervention process that incorporates differentiated instruction, intervention methods, and multiple assessment tools in a Multi-Tiered Model to help maximize student achievement in

public schools. This process is also mandated by the Texas Education Agency (TEA) for educators to provide research-based interventions that are aligned with student needs.

2. *Imagination Station (I-station)* – an on-line administered, research-validated, continuous progress monitoring assessment of critical early reading skills. The curriculum covers developmentally appropriate skills in the essential reading areas of phonological and phonemic awareness, phonics, vocabulary, fluency, and comprehension.

3. *"Rally to Read" Program* – a reading program designed by the Center for Learning and Development (CLD) for intense, individualized reading remediation. "Rally to Read" is primarily technology-based and incorporates five skill areas: phonological awareness, phonics, fluency/rate, vocabulary, and comprehension.

4. *System to Enhance Educational Performance (STEEP)* - a research-based RTI program that guides users to match an appropriate intervention to the needs of struggling learners. STEEP uses a standard protocol approach to quickly identify the types of intervention needed in reading or math for students not achieving benchmarks.

5. *Gray Oral Reading Test (GORT-4)* – an individually administered test of oral reading ability. It also provides an objective measure of growth in oral reading and an aid in the diagnosis of oral reading difficulties.

6. *Lindamood Auditory Conceptualization Test (LAC-3)* – an individually administered, norm-referenced assessment that measures an individual's ability to perceive and conceptualize speech sounds using a visual medium.

Each of these tests and/or programs will often be used to aid in the success of the RTI process. The Multi-Tiered model within RTI utilizes these tools to ensure that

appropriate instruction directly addresses the student's academic and/or behavioral difficulties.

7. *Pull-Out and Push-In Assistance* – The term "pull-out" assistance refers to individual or small group instruction for students when they are removed from the general education classroom to another area of the building to work with another instructor. The term "push-in" assistance refers to another teacher or paraprofessional coming into the general education classroom to assist the classroom teacher and work with specific students.

Limitations of the Study

The purpose of this study was to determine the effectiveness and/or impact of the "Rally to Read" program on students in Tier 3 on Campus A of this study. Schools that struggle to implement research-based approaches to reading interventions in Tier 3 may benefit from information gained through this study. However, there were several limitations to this study with regard to student data and program implementation:

1. The main limitation to this study was the number of students being monitored in Tier 3 of the RTI process. Only 11 students were being monitored on Campus A, and only 11 students are being monitored on Campus B.

2. The second limitation was that this study only implemented the "Rally to Read" program on one campus. This study used I-station scores from only one other campus as a comparison.

3. The third limitation in this study, commonly known as fidelity, was the

teacher's ability to implement the "Rally to Read" programs. This may have impacted the students' understanding of the basic skills. *Note*: Teachers were trained in "Rally to Read" by a representative from the Center for Learning and Development.

4. The fourth limitation was the potential for teacher bias during the administration of the computer programs based on relationships with particular students. Teacher bias related to the programs components may have played a role in the implementation process of I-station and the Tier 3 interventions.

In addition, there were several student variables that may have hindered the success of the "Rally to Read" program. Student responses, student backgrounds, classroom settings, and student motivation may have contributed to the students' abilities to respond to the program components. Students were more apt to understand and make an effort to learn when they were comfortable with the teachers, the programs, and the environment. The "Rally to Read" program was also designed to help foster student's love and appreciation for reading. Student motivation was a critical component in order to see success with the "Rally to Read" program.

Summary and Discussion

Campus A of this study was the only elementary school in its district with 46% of its students qualifying for free or reduced lunches. RTI was implemented at this campus for 12 months prior to the initiation of this study. Teachers had previously worked with administration, reading/math specialists, and intervention teams to help implement specific behavior management strategies. Many teachers had scheduled team meetings to discuss additional intervention strategies for struggling learners and students with severe discipline problems. Although the staff was originally reluctant to immerse themselves

into the RTI process, most of the teachers became more comfortable using the documentation forms and intervention strategies.

The "Rally to Read" program was implemented on Campus A in order to help students grow in the areas of reading fluency and reading comprehension. Without the RTI process, it would have been difficult to narrow down the number of students who needed this program. In general, third and fourth grade students make up a critical developmental component of public schools. These students are preparing to take state mandated exams, and they are receiving more concentrated instruction in classrooms related to reading and testing skills. Students in this age group are also eligible for dyslexia and additional reading services that would otherwise not be offered to younger students. The "Rally to Read" program was an attempt to address the reading deficiencies of students in this learning category. In the future, more studies related to early student progress may help provide direction for learning needs and reading instruction for all students.

On Campus A of this study, the RTI process helped to foster collaborative efforts between grade level team members. Teachers were communicating their student and curriculum concerns more frequently due to the nature of the RTI process. Staff members on Campus A and Campus B made efforts to discuss more practical ways to help each other since the implementation of the RTI process. In addition, Campus A staff members who worked with "Rally to Read" were consistently involved with the program on a daily basis. This program would not have been implemented as quickly without the requirements dictated by TEA regarding the Response to Intervention Model. The schools in this study, similar to many other schools in central Texas, were trying to

implement the RTI process in an effective manner. Collaboration, communication, and team efforts appeared to be the keys to implementing “Rally to Read,” “Imagination Station,” and the RTI model on both campuses in this study.

CHAPTER TWO

Review of Related Literature

Preface

Reading achievement for students in public schools is consistently dependent upon the presence, availability, and implementation of effective reading programs and instructional remediation. Reading is essential for an individual's fundamental success and performance in society (Snow, Burns, & Griffin, 1998). The National Center for Education Statistics (2006) noted that the overall achievement scores on the National Assessments of Educational Progress (NAEP) for students aged nine to seventeen, between 1971 and 2004, were varied and mixed. Nine-year-old and thirteen-year-old students showed a slight increase in reading comprehension scores since the early 1970's. Male and female trends remained the same. However, the overall achievement scores of African American and Hispanic students continued to display significant gaps in reading progress when compared to the scores of White, Non-Hispanic students.

In 1997, Congress asked the Director of the National Institute of Child Health and Human Development (NICHD) to convene a national panel to evaluate the status of research based approaches in reading throughout the United States. This panel, known today as the National Reading Panel (NRP), assessed the status of research-based information related to reading. This assessment of reading throughout the U.S. included an evaluation of the success of various efforts and interventions for literacy instruction. As a result of this report by the NRP, as well as mandates by the No Child Left Behind Act of 2001, educational institutions were charged with locating "scientifically research

based" approaches to address the needs of struggling readers in public schools (NCLB, 2002, Sec. 1208). In this study, the "Rally to Read" program was utilized as a research-based approach for students with reading deficiencies.

Federal Government and the No Child Left Behind Act of 2001

The majority of programs and initiatives in reading instruction in America are primarily a result of government requirements and mandates dictated by the No Child Left Behind Act of 2001. NCLB legislation has stated that "all students will be literate by the end of the 3rd grade school year" (No Child Left Behind [NCLB], 2002). NCLB has also mandated standardized reading assessments for all students from grades 3 through 8 (NCLB, 2002). As a response to this legislation, the content and instruction in the areas of reading have shifted in public schools over the past few years. Reading remediation programs and intense reading intervention methods have increased throughout most local agencies. In addition, many public schools struggle to keep up with the reading requirements set forth by the No Child Left Behind Act of 2001. NCLB (2002) noted that the reading achievement of public school students should incorporate: 1) an understanding of reading, 2) the five essential components of reading comprehension, 3) scientifically research based reading interventions, and 4) research-based diagnostic reading assessments (NCLB, 2002, Sec. 1208). NCLB defined the term "reading" as:

> A complex system of deriving meaning from print that requires all of the following: (A) the skills and knowledge to understand how phonemes, or speech sounds, are connected to print; (B) the ability to decode unfamiliar words; (C) the ability to read fluently; (D) sufficient background information and vocabulary to foster reading comprehension; (E) the development of appropriate active strategies to construct meaning from print; and (F) the development and maintenance of a motivation to read. (NCLB, 2002, Sec. 1208)

This terminology stated that all students must be able to identify letters and sounds, recognize different words in a sentence, demonstrate the ability to read fluently, show a knowledge of relevant vocabulary, and be able to "make sense" of words in a sentence. The National Reading Panel (2000) concluded that there are five essential components necessary for quality reading instruction. These five components include: phonemic awareness, phonics, reading fluency, vocabulary, and reading comprehension. For this study, the reading remediation program used to intervene with students who struggled in reading, known as "Rally to Read," was based on these five components. In addition, the "Imagination Station" progress monitoring program was used to compare fluency and comprehension scores from Tier 3 student groups in two different school buildings. Fluency and comprehension were two of the five components recommended as key elements for successful reading programs.

NCLB mandated that all reading instruction and remediation should be "scientifically research based" so as to "apply rigorous, systematic, and objective procedures to obtain valid knowledge relevant to reading development, reading instruction, and reading difficulties" (NCLB, 2002, Sec. 1208). In addition, these interventions should "employ empirical methods that draw on observation or experiment; involve rigorous data analyses; rely on measurements or observational methods that provide valid data; and be accepted by a peer-reviewed journal or an approved panel of independent experts" (NCLB, 2002, Sec. 1208). These explicit definitions and requirements of NCLB were the primary catalysts for the implementation of a Response to Intervention Model (RTI) in public schools. In order for schools to effectively monitor and assess students' reading progress, there must be a system in place to help identify and

address learning deficiencies. Based on the directives of the Individuals with Disabilities Education Act (2004), school systems must incorporate some form of an intervention model in their assessment of students' reading progress. The current dilemma for most schools is providing reading interventions that are "scientifically research based."

NCLB legislation also explained the need for effective diagnostic assessments in reading. These assessments must be "valid, reliable, and based on scientifically based reading research" (NCLB, 2002, Sec. 1208). Effective reading assessments must also, "identify a child's specific areas of strengths and weaknesses so that the child has learned to read by the end of the 3rd grade; determine any difficulties that a child may have in learning to read and the potential cause of such difficulties; and help to determine possible reading intervention strategies and related special needs" (NCLB, 2002, Sec. 1208). As a result, diagnostic progress monitoring programs that are able to demonstrate the inclusion all of these assessment requirements (ex. DIBELS, AIMS, I-Station) have become prevalent methods of monitoring reading progress in public schools.

Effective reading instruction initiatives by the No Child Left Behind Act of 2001 also led to the Reading First and Early Reading First grant programs. Reading First grants were made available to all qualifying schools whose NAEP scores showed significant reading discrepancies. In addition, Reading First initiatives included in NCLB forced educators to incorporate new, comprehensive assessment models for reading instruction. The Response to Intervention Model has become the newest, most widely used method of identifying and monitoring students' areas of weakness in reading. Reading First initiatives and the RTI model have utilized similar concepts in their efforts to help students who struggle in reading. Both of these efforts have included an

assessment model, methods of indentifying strengths and weaknesses, and progress monitoring tools. However, the RTI model was also designed to help reduce the number of special education referrals for students in the core areas of math and reading.

Research Based Reading Components

In 1997, Congress asked the Director of the National Institute of Child Health and Human Development (NICHD) at the National Institute of Health to convene a national panel to assess and evaluate reading in the United States. For two years, this National Reading Panel (NRP) reviewed relevant studies and literature from over 100,000 reading research studies that had taken place since 1966. On April 13th, 2000, the NRP presented its conclusions and finding to the U.S. Senate Appropriations Committee on Labor, Health and Human Services, and Education. According to the findings published by the National Reading Panel (2000), there were five essential elements necessary to foster quality reading instruction in a reading intervention program. These five components included: phonemic awareness, phonics, reading fluency, vocabulary, and reading comprehension.

Phonemic awareness refers to the ability to hear and manipulate individual phonemes in words. Students who learn elements of phonemic awareness should be able to recognize and distinguish individual sounds in spoken words and in written text. Phonemic awareness requires students to notice how letters represent sounds in order to recognize print while reading words in sentences. The National Reading Panel (2000) noted in its report of classroom instruction that students showed successful achievements in reading when phonemic awareness activities were included in instructional delivery. Adams, Foorman, Lundberg, & Beeler (1998) discussed several common phonemic

awareness skills that are commonly practiced with struggling readers including oral segmenting, oral blending, sound deletion, phonemic substitution, phonemic isolation, and onset-rime manipulation. Ideally, phonemic awareness should build the foundation for students to understand and process language in order to better comprehend reading material (Ehri, Satlow, & Gaskins, 2009).

The phonics component of reading instruction refers to methods for teaching students how to connect sounds with letters or groups of letters in a word. Phonics is the most common method of teaching children how to read and decode words in a sentence. Teachers who implement phonics usually incorporate several vowel and consonant patterns during instruction that include: short vowels, long vowels, diphthongs, consonant and vowel clusters, and consonant and vowel digraphs. Although the relationship between letters and sounds is not always consistent, it is predictable enough for young children to be able to learn and decode unfamiliar words (Foorman, Francis, Winikates, Mehta, Schatschneider, & Fletcher, 1997). Adams (1990) explained that the goal of phonics is to work together with sounds and letters to help students form language. Adams (1990) also discussed how phonics aids individuals in the acquisition of reading as well as the delivery of reading instruction.

Reading fluency refers to the ability of students to read written text in a quick and accurate manner. Reading fluency is sometimes confused with oral fluency, which refers to the smoothness and/or flow of sounds and syllables when joining together words in a spoken phrase. Reading fluency indicates the speed at which students are able to read a given text while still gaining an adequate understanding of the passage. Fuchs, D. & Fuchs, L. (2005) described how fluency is ultimately a set of decoding skills that allows

readers to rapidly identify and understand words in a sentence while maintaining a high level of comprehension. Adequate reading fluency suggests that children should be able to quickly recognize common words in a sentence in his or her native language (National Reading Panel, 2000). Reading and decoding these words should be a smooth, fluid process. The speed at which children are able to read and comprehend text is a common progress monitoring tool for reading intervention programs. In addition, a student's ability to read fluently is a strong indicator of overall reading comprehension skills (Moats & Lyon, 1997).

Vocabulary refers to all of the words that a student can recognize and understand while reading text. Although knowledge of vocabulary aids in reading comprehension, it also aids in a student's ability to express feelings and communicate with others. Vocabulary knowledge is a critical component of reading comprehension. Strong vocabulary instruction should involve students' abilities to actively decipher and relate word meanings (Anderson, Pearson, & Bolt 1984; Stahl, 1998). Vocabulary acquisition is an on-going process for language learners as well as struggling readers. Learning vocabulary is one of the first steps in understanding language. It is important for students to know the meaning and definition of a word in order to have knowledge of specific vocabulary. Hirsch, Kett, & Trefil (1987) noted in their work, *Cultural Literacy*, that key words in vocabulary are essential to child development as well as success in adulthood. Snow, Burns, & Griffin (1998) maintained that an insufficient knowledge of vocabulary in language poses a significant problem for young children who are struggling to read. Vocabulary has also been shown to have a strong connection to phonemic awareness and

phonological processing abilities in young children (Lonigan, Anthony, Phillips, Purpura, Wilson, & McQueen, 2009).

Reading comprehension refers to the level of understanding of meaning within a written text. Students who acquire adequate strategies to understand, communicate, and remember information during reading are able to demonstrate adequate reading comprehension skills during their school careers. Effective reading comprehension builds on the knowledge, vocabulary, and language development that is derived from home life experiences and early schooling (Dickinson & Tabors, 2001; Snow, Burns, & Griffin, 1998; Neuman, 1999; Stahl, 1999; Anderson, Pearson, & Bolt, 1984). Reading comprehension also involves the construction of word meanings so that the reader can connect prior knowledge with the acquisition of new information in order to gain a full understanding of material (Pressley & El-Dinary, 1997).

Reading Comprehension Instruction

Reading comprehension strategies allow students to think and analyze text while incorporating prior knowledge of vocabulary and information that is already familiar to the individual readers. Ultimately, students will have to use some form of prior background knowledge in order to process the meaning of text during reading attempts (Harris & Hodges, 1995). Students who comprehend text using broad, prior background knowledge are more likely to make connections and show long-term success in reading comprehension. Conversely, students who lack sufficient background knowledge to make connections in reading will have a greater difficulty answering questions that require knowledge recall (Beck & McKeown, 2001; Recht & Leslie, 1988). Based on the varied backgrounds and information that students bring to the classroom, students who

struggle in reading comprehension may require several different instructional approaches in order to become proficient readers.

Research has indicated that strong reading comprehension instruction should also incorporate effective cognitive strategies while assisting struggling readers (Beneventi, McEndollar, & Smith, 2002; Pressley, 1989). Cognitive strategy instruction should provide students with activities that encourage comprehension and assist with problem-solving skills (Torgesen et al., 2001). Cognitive strategy instruction is designed to help students effectively evaluate words and phrases during reading that they do not understand. This requires the reading teacher to draw out a student's background knowledge. Prior knowledge and problem solving skills should be utilized to help overcome reading obstacles during individualized instruction (Dickinson & Tabors, 2001; Neuman, 1999; Stahl, 1999; Anderson, Pearson, & Bolt, 1984). Cognitive strategy instruction aims at helping students become aware of their own thinking processes in order to appropriately address reading impediments.

In its review of reading skills and comprehension, the National Reading Panel (2000) identified 16 categories of reading comprehension instruction that proved effective through reading studies. Of these 16, only seven of these instructional methods appeared to have a strong, scientifically research-based foundation for improving comprehension. These instructional approaches included: 1) comprehension monitoring – teaching students to monitor their own understanding while reading text; 2) cooperative learning – when students learn reading strategies together; 3) utilizing graphic organizers and story maps; 4) question answering – receiving immediate feedback from reading instructors; 5) question generation – when students create their own questions about a

passage; 6) story structure – recalling story content to help answer questions; and 7) summarization text information. The National Reading Panel (2000) commented that these approaches to teaching reading comprehension work well alone, but may also be enhanced when used together as a whole.

Research has indicated that reading comprehension instruction must be explicit and purposeful for the reader (Dole, Duffy, Roehler, & Pearson, 1991; National Reading Panel, 2000). Effective reading teachers must be clear and specific about their expectations for students. Hogan and Pressley (1997) noted the importance of teacher scaffolding during reading instruction. Scaffolding is implemented in reading lessons by utilizing research-based strategies such as predicting, summarizing, generating questions, thinking aloud, and creating visual images. Hogan and Pressley (1997) explained the need to incorporate a variety of techniques when addressing the specific reading deficiencies of individual students. Reading teachers need to effectively explain, model, and demonstrate the required results with regard to specific reading activities. Some students may require more explanation of text due to a lack of background knowledge.

Relevant studies have also showed that reading comprehension should be incorporated across all genres of reading as well as each subject area of school instruction (Duke, 2000; Anderson, Pearson, & Bolt, 1984). Students who have the opportunity to read and understand material in a variety of forms, subjects, and genres should be able to feel more comfortable with the reading process (Duke, 2000). Effective reading comprehension instruction should also allow students to become engaged in the reading material through motivational strategies and intervention techniques. In this regard, instructional methods should help create, build, and enhance a student's love of reading.

When the love of reading is fostered in the classroom, students tend to respond more positively to teacher interactions and reading remediation (Center for Learning & Development, 2009; Strommen & Mates, 2004).

Fluency and Assessment

Research related to fluency based assessments and comprehension fluency have indicated that measuring reading fluency can be a significant indicator of reading comprehension skills (Fuchs, D. & Fuchs, L., 2005; Griffiths, VanDerHeyden, Skokut, & Lilles, 2009; Schwanenflugel, Kuhn, Morris, Morrow, Meisinger, & Woo, 2009). Research by Schwanenflugel et al. (2009) noted that repetition, in combination with modeling, was the most significant component in the vast majority of fluency-based reading interventions. While this component is necessary, it should not stand alone as a reading remediation tool (Fuchs, D. & Fuchs, L., 2005; National Reading Panel, 2000). Reading fluency refers to the speed at which students are able to read and comprehend a given section of text. Reading fluency assessments have become common forms of measuring reading achievement and comprehension in public schools. Progress monitoring data is oftentimes based on two minute or three minute assessments of students' reading abilities. These brief assessments may or may not present an accurate picture of a student's ability to comprehend reading passages. As previously noted, several recent studies have indicated that fluency assessments should not be the only means of evaluating reading improvement and achievement (Fuchs, D. & Fuchs, L., 2005; Gabl, Kaiser, Long, & Roemer, 2007; National Reading Panel, 2000). Fluency assessments should be combined with additional forms of data to determine the specific areas of reading deficiencies.

Reading fluency has gained recognition as an essential element of effective reading remediation programs (National Reading Panel, 2000). Reading fluency is also a defining characteristic of strong readers. Conversely, an inability to read fluently may be an indicator of poor reading skills (Moats & Lyon, 1997; Stanovich, 1986). A recent study by Bashir & Hook (2009) studied the links between word identification and comprehension. These authors maintained that improving reading fluency for young readers can be a slow process. In their study, preventative interventions showed to have a stronger impact on reading improvement than remediation approaches (Bashir & Hook, 2009). At the same time, they noted that effective instruction should demonstrate a balance between improving a student's current reading skills and increasing a student's knowledge of word recognition.

Recent Studies in Fluency. Recent studies have continued to identify correlations between reading fluency and reading comprehension (Coulter, Shavin, & Gichuru, 2009; Fuchs, D. & Fuchs, L., 2005; Gabl, Kaiser, Long, & Roemer, 2007). With these findings, educators focus on reading fluency as a progress monitoring tool to help identify struggling readers in need of reading interventions. For fluency assessments, teachers need to hear students as they read aloud in order to make judgments related to their reading progress. When teachers observe oral reading fluency, they should be sure to note three critical aspects of fluent reading: word reading accuracy, rate, and prosody (Hudson, Lane, & Pullen, 2005). Students' abilities to demonstrate fluent reading is only a small indicator of successful reading comprehension. Teachers should note additional information related to student comprehension when evaluating student progress and individual progress-monitoring data. As such, reading fluency assessments should be

part of a larger, broader reading program that emphasizes research-based intervention methods in connection with overall reading achievement (Jones, Wickstrom, Noltemeyer, Brown, Schuka, & Therrien, 2009).

Importance of Reading Interventions

Students who struggle in reading comprehension usually require small group or individualized instruction. Early interventions for students who struggle in reading have become more commonplace since the release of NCLB legislation. Research suggests that students who struggle with reading at an early age will continue to struggle throughout their school career if he or she is not allotted the necessary, appropriate interventions during early development (Compton, Fuchs, D., Fuchs, L., & Bryant, 2006; Juel, 1988; Stanovich, 1986). Juel (1988) explained in a study that tracked 54 students from first grade to fourth that, "the probability that a child remains a poor reader at the end of fourth grade if the child was a poor reader at the end of first grade is 88%" (p. 437). Juel (1988) further explained the importance of intervening with students who have reading deficiencies at an early age. Students who have reading difficulties that are unaddressed and unmonitored may become increasingly worse if they not addressed in a timely fashion. A phenomenon known as the "Matthew Effect" (Stanovich, 1986) described the widening gaps in reading achievement between students who were good readers compared to students who were poor readers. Stanovich (1986) suggested that early success in the acquisition of reading skills may lead to continued success throughout a learner's adulthood. Conversely, Stanovich (1986) also suggested that students who fail to learn to read before the 3rd or 4th grade may continue to have learning struggles throughout his or her school career.

As a result, early literacy research concerning reading interventions and preventative measures in literacy have driven public schools to address students' reading deficiencies. Additional studies related to early reading interventions (Adams, 1990; Catts, Petscher, & Mendoza, 2009; Compton, Fuchs, D., Fuchs, L., & Bryant, 2006; Hart & Risley, 1995; National Reading Panel, 2000; Snow, Burns, & Griffin, 1998; Vaughn, Wanzek, Murray, Scammacca, Linan-Thompson, & Woodruff, 2009) have noted the critical necessity and importance of early identification and prevention of reading disabilities for children at a young age. The review by Adams (1990) indicated the need for schools to maintain a fundamental, research-based approach to identifying and addressing students' individual learning deficiencies. Adams (1990) also noted the importance of building a strong foundation of reading interventions in order to better address the prerequisite skills required for early literacy. Catts, Petscher, & Mendoza (2009) reviewed the impact of a Response to Intervention Model (RTI) on the identification and prevention of reading disabilities. This study by Catts, Petscher, & Mendoza (2009) showed that children's performance on five measures of the Dynamic Indicators of Basic Early Literacy Skills (DIBELS), as well as two other reading achievement measures, helped identify students' areas of weakness at an early age with regard to reading comprehension. Compton, Fuchs, D., Fuchs, L., & Bryant (2006) also implemented an early intervention approach as part of the Response to Intervention Model. Compton, Fuchs, D., Fuchs L., & Bryant (2006) monitored the success and/or failure of selected first grade reading students' comprehension and fluency as a result of specific interventions. Their research suggested that the RTI Model, when used correctly, helped identify children who may develop reading disabilities in order to address their

deficiencies at an early stage. Ultimately, this data recommended that intervention methods should be implemented to help struggling readers as soon as an area of weakness is identified.

Students who are identified as at-risk based on universal screenings and progress monitoring tools will usually be provided with interventions at an earlier, more critical stage of literacy development. These students may have the potential to demonstrate achievements in reading comprehension over a shorter period of time if afforded more intense, individualized reading interventions (Berninger, Abbott, Zook, Ogier, Lemos-Britton, & Brooksher, 1999; Torgesen, Alexander, Wagner, Rashotte, Voeller, Conway, & Rose, 2001). The study by Torgesen, et al. (2001) discussed the immediate and long-term outcomes of two instructional approaches directed towards children with severe reading disabilities. The work by Torgesen, et al. (2001) suggested that intensive remedial instruction for students with severe reading disabilities reduced the number of special education referrals in the study by 40%. For this reason, reading remediation strategies have continued to grow and expand in public schools. Many of these programs have begun to incorporate computer-based learning in order to help address the increasing number of students who struggle in reading. Recent research has suggested that the use of computer based instruction programs may help aid in the success of certain reading interventions (Kulik & Kulik, 1991).

Computer-Based Reading Instruction

Researchers have argued that computer-based instruction has the ability to enhance reading remediation programs as well as reduce the educational costs of reading interventions (Kulik & Kulik, 1991). This study primarily examined the success of

students in a reading intervention program through progress monitoring tools and instructional techniques utilizing computerized remediation software. Computer-based instruction refers to any device or computer usage tool that allows students to drill and practice, dialogue, receive tutorial, program, and/or complete supplementary activities. With regard to reading remediation, computer-based instruction may include software activities and interactive material for individual students as well as technology that assists teachers in the presentation of reading interventions.

In the current study, the "Rally to Read" and Imagination Station computer software programs were both designed to identify and address the reading deficiencies of struggling readers. Each of these programs contained activities that allowed students to read, respond, interact, and demonstrate knowledge of vocabulary through independent computerized activities. The literature noted several possible benefits from this type of reading intervention including the presence of motivational stimulants, minimal seat time, individualized attention, modified learning pace, and the provision of immediate feedback for student correction (Barker & Torgesen, 1995; Macaruso, Hook, & McCabe, 2004; Lonigan, Driscoll, Phillips, Cantor, Anthony, & Goldstein, 2003). Reading remediation techniques that allow students to receive positive and immediate reinforcements are also present during computer-based instruction. The "Rally to Read" remediation program is designed to help students who struggle in reading comprehension to improve his or her reading skills while enjoying class time and fostering a love of reading.

Additionally, this study focused on the areas of reading comprehension and reading fluency as a method of monitoring student achievement with these two computer-

based programs. Computer based learning has been shown, more specifically, to help increase the reading fluency of students in elementary classrooms who have displayed a significant reading deficiency in a particular reading component (Chambers, Slavin, Madden, Abrami, Tucker, & Cheung, 2008; LeVasseur, Macaruso, & Shankweiler, 2008). Also, recent studies have shown that specific computer-based intervention designed to address reading comprehension have also shown strides with elementary students (Shamir, Korat, & Barbi, 2008; Williams, Rouse, Seals, & Gilbert, 2009). Most notably, these studies showed the successful impact of computer-based learning on the long-term success of students who struggled in fluency, decoding, and overall reading comprehension. This computer-based reading intervention method, combined with the identification process (RTI) of students who struggle in reading, was the primary foundation for the current study.

"Rally to Read" Remediation

The "Rally to Read" program, used as the primary Tier 3 intervention for Campus A of this study, was originally designed by the Center for Learning and Development (CLD). CLD is a service division of Behavioral Health Institute, and it is located in central Texas. "Rally to Read" is a concentrated, focused reading remediation program designed upon research by the National Institutes of Health and Human Development (NICHC). The "Rally to Read" program is primarily technology based, and it incorporates the five skill areas deemed to be imperative in reading programs by the National Institute of Health as well as the National Reading Panel (created by Congress in 1997). As shown before, these five research-based areas include: phonological awareness, phonics, fluency/rate, vocabulary, and comprehension. "Rally to Read"

utilized research-based software and subprograms during the station rotations of its remediation on Campus A of this study. These software programs included *Lexia, Read Naturally, Lindamood Phoneme Sequencing Program* (LIPS), *Study Hall 101*, *Don Johnston Multi-Media Books* and *Earobics*.

The *Lexia* and *Read Naturally* programs are based on researched outcome studies in the area of computer assisted instruction. Several research-based studies have been published in peer-reviewed journals related to the benefits of the *Lexia* Reading Program. Some of this research includes, "The Efficacy of Computer-Based Supplementary Phonics Programs for Advancing Reading Skills in At-Risk Elementary Students," published in *The Journal of Research in Reading* (2004), as well as "The Efficacy of Computer Assisted Instruction for Advancing Literacy Skills in Kindergarten Children," published the peer-reviewed journal, *Reading Psychology* (2008). The *Read Naturally* program has been highlighted in *Reading Research and Instruction* (1999) in the article, "Read Naturally: A Strategy to Increase Oral Reading Fluency." The Florida Center for Reading Research, as well as the University of Oregon, has noted exceptional results regarding the success of the *Read Naturally* program.

Nancy Bell and Patricia Lindamood founded The Lindamood-Bell learning processes that are the driving force behind *The Lindamood Phoneme Sequencing Program* (LIPS). The Lindamood-Bell approaches to learning have been in practice for over thirty years. Research related to the Lindamood-Bell approach to phonemic awareness includes, "Phonological awareness training and the remediation of analytic decoding deficits in a group of severe dyslexics," published in *Annals of Dyslexia* (1991) as well as, "Preventing reading failure in young children with phonological processing

disabilities: Group and individual responses to instruction," published in the *Journal of Educational Psychology* (1999). The LIPS program has shown that individuals can increase reading abilities and heighten phonemic awareness with as few as four weeks of intensive reading remediation.

Earobics is a research-driven, multisensory learning approach based on the recommendations for reading instruction by the National Reading Panel (NRP). Schools across the country in cities such as: New Orleans, LA, Montgomery, AL, Chicago, IL, and Jefferson County, KY have demonstrated the successful implementation of the Earobics reading intervention program. The Florida Center for Reading Research has confirmed findings that Earobics can quickly and effectively enhance reading achievement for struggling learners in public schools and private institutions. This program, along with each of the aforementioned intervention programs, is the foundation of the "Rally to Read" remediation curriculum.

Study Hall 101 is an interactive vocabulary program designed by Tricia Raley, Ph.D., the clinical director for the Center for Learning and Development in Waco, TX. Dr. Raley designed *Study Hall 101* from her knowledge of how the brain stores information, her knowledge of what helps kids love learning, and her years of experience in working with struggling readers (Center for Learning and Development, 2009). *Study Hall 101* provides fun, innovate ways for students to learn vocabulary facts through repetition in a game-like format. The program was designed to help students understand and store vocabulary knowledge into long term memory. In addition, *Study Hall 101* allows teachers to input their own vocabulary information into the program in order to tailor instruction for individual students. This component, as well as *Lexia*, *Read*

Naturally, and the *Lindamood Phoneme Sequencing Program* (LIPS), were the four primary stations of the "Rally to Read" program that were consistently utilized with Tier 3 students on Campus A of this study.

Response to Intervention (RTI)

Response to Intervention (RTI) is an assessment and intervention model that incorporates differentiated instruction, various intervention methods, and multiple assessment tools in order to help maximize student achievement in public schools. The Response to Intervention Model is a result of past changes and directives set forth by federal legislation. The Individuals with Disabilities Education Act (IDEA), reauthorized and signed into law in December of 2004, was rewritten to address the special education laws aimed at assisting struggling learners. IDEA 2004 specifically focused on addressing the reading assessments, instructional practices, and intervention methods for students who display significant reading deficiencies. Upon its reauthorization, several sections of IDEA were modified to reflect current research and guidelines resulting from the National Reading Panel (NRP) as well as the No Child Left Behind Act of 2001. One of the primary modifications to IDEA 2004 was the recognition and inclusion of a Response to Intervention Model (RTI) as a method of identifying students with learning disabilities.

Formation and Explanation of RTI

In 1977, the United States Office of Education proposed regulations to accompany PL 94-142 to help practitioners identify children with specific learning disabilities. As a result, the U.S. Office of Education determined that a discrepancy

model would serve as the primary method for determining students' eligibility for special education services. Hallahan & Mercer (2001) defined the discrepancy model as the operational discrepancy between student achievement (as determined by classroom performance) and student ability level (commonly dictated by IQ testing). This discrepancy model was based on reading research by Rutter and Yule (1975). Rutter and Yule (1975) concluded, based on epidemiological studies on the Isle of Wight, that there were notable relationships between the IQ and reading performances of students with severe reading retardation. In previous years, the discrepancy model has been the sole method of identifying students with learning disabilities and granting entry into special education programs for public schools in the U.S. However, relevant research (Aaron, 1997; Gresham & Witt, 1997; Stanovich & Siegel, 1994; Vellutino, Scanlon, & Lyon, 2000) determined that the discrepancy model showed little or no significant differences in the origins of learning disabled and non-disabled students who received reading remediation. Vellutino, Scanlon & Lyon (2000) indicated in their research that IQ-achievement discrepancy was unable to provide a reliable distinction between poor readers and proficient readers. Stanovich & Siegel (1994) were also unable to find any specific differences between students with a discrepancy from students with low reading progress on measures related to phonological awareness.

As a result of this research, which does not support the use of the discrepancy model as the sole means of special education identification, the method for determining whether or not a student qualifies for special education services has changed with respect to IDEA 2004. Although the process was not specifically mentioned in the IDEA 2004 statute, the Response to Intervention model was included as a provision to assist in the

identification of students with learning disabilities. The Response to Intervention Model, commonly known as RTI, was noted in the comments section of IDEA 2004 as a method of identifying and addressing the learning needs of struggling readers. As a result, the components, procedures, and criteria for identifying students with learning disabilities have changed with regards to the IDEA 2004 and the Response to Intervention Model. Changes in the IDEA 2004 included provisions for public schools in determining whether or not a student has a specific learning disability (SLD). Public schools and local agencies are no longer required to locate or note a student's discrepancy between his or her achievement and intellectual ability (as formerly required). In addition, schools may utilize a process for identification and educational involvement to determine if a child will respond to scientifically research-based interventions prior to referral for special education services (IDEA, 2004). These changes in the IDEA 2004 generated noteworthy interest in the implementation and use of the Response to Intervention process. In addition, the RTI model has allowed for more frequent and relevant opportunities for general education and special education teacher to collaborate on behalf of students' learning needs (VanDerHeyden, Witt, & Barnett, 2005; Vaughn & Fuchs, 2003).

The National Association of State Directors of Special Education (NASDSE) and the Council of Administrators of Special Education (CASE) published a White Paper (2006) discussing the importance, as well as the principles, of the Response to Intervention Model. NASDSE and CASE defined the Response to Intervention Model as, "the practice of providing high-quality instruction/intervention matched to student needs using learning rates over time and level of performance to make important

educational decisions" (NASDSE & CASE, 2006, p. 2). Elliot (2008) noted regarding the RTI process that, "this approach is not about placing the problems within the student, but rather examining the student's response to instruction and intervention" (p. 10). The RTI process is designed to help identify, assess, and address the learning needs of individual students based on a variety of information gathered by a range of educators. The RTI process also aims to help foster teacher collaboration regarding students' progress in order to help identify intervention methods that have not otherwise been utilized in the traditional classroom setting. Chambers (2008) noted that, "if a problem is identified early and targeted intervention is provided, this could get a student on track, and improve achievement" (p. 18). When implemented correctly, regular education teachers will be able to work with special education teachers within the RTI process to help implement early interventions for struggling students (VanDerHeyden, Witt, & Barnett, 2005; Vaughn & Fuchs, 2003). If interventions are successful, then the area of weakness is identified without the need for special education services. Ideally, struggling students in the RTI process will display adequate progress during early intervention tiers. Gresham (1991) explained that responsiveness to intervention is a change in behavior or performance as a function or result of specific interventions. This notion is a central element of the RTI model. The goal of RTI is to ultimately help improve student achievement and performance as a result of research-based interventions that meet the instructional needs of selected students (Elliot, 2008).

The NASDSE and CASE White Paper (2006) noted regarding Response to Intervention that, "RTI should be used for making decisions about general, compensatory and special education, creating a well-integrated system of instruction/intervention

guided by child outcome data" (p. 3). The NASDSE and CASE (2006) also described the Response to Intervention Model as being based on eight core principles designed to assist with differentiated instruction:

1) Local agencies have the ability to effectively teach all children.

2) Early intervention methods are important.

3) Agencies should utilize a multi-tier process of delivery.

4) A problem-solving method should be utilized within the multi-tiered process.

5) Research-based interventions should be used to the highest extent available.

6) Student progress should be constantly monitored in order to help inform instruction.

7) Data should be utilized in all decision-making.

8) Assessment should be utilized for student achievement in order to: a) screen all students in an attempt to identify those who are not making adequate progress at expected rates; b) utilize diagnostics to decipher exactly what children can or cannot do with regard to important academic and behavioral domains; c) progress monitor these students in order to determine if any academic or behavioral interventions are producing the desired effects.

As noted by NASDSE and CASE (2006), all screening, diagnostic assessments, and progress monitoring pieces should be linked in order to help identify the specific area of weakness of struggling learners. This allows all parties involved in the education of the student to work together and share strategies that will best help the student achieve success and overcome any learning deficiencies.

Components and Models of RTI

The Response to Intervention Model comprises a number of critical components in order to demonstrate effectiveness in its entirety. Teachers, parents, paraprofessionals, administrators, and community members all have a stake in the effective implementation of the RTI process. Elliot (2008) stated regarding the Response to Intervention Model that, "effective instruction is at the heart of RTI. The systematic work of leadership involved in implementing RTI cannot be underestimated. First and foremost, it requires creating a culture and deep belief that all students can learn irrespective of disability, race, language, or socioeconomic status" (p. 11). Elliot (2008) continued to elaborate on the structural components of the RTI model. She noted that the make-up of RTI may look different from one campus to another, but the core principles and components that drive the RTI process should be similar in design.

The literature has offered numerous examples of how the RTI Model has helped to intervene and address the needs of struggling readers to avoid significant learning gaps (Gresham, Lane, O'Shaughnessy, & Beebe-Frankenberger, 2003; Mesmer, & Mesmer, 2008; Gray, Harmon, & Koutsoftas, 2009; Fuchs, & Fuchs, 2006; Vellutino, Scanlon, Small, & Fanuele, 2006). At the same time, each of these studies incorporated a thorough explanation of the practical components of the RTI Model in each of the local agencies. McCook (2006) noted two specific types of models for Response to Intervention: the protocol model and the problem-solving model. The protocol model defines a specific, scientifically research based intervention that will be used by an organization. This model was designed to work for the vast majority of students, and has yielded several successful case studies (Torgesen, Alexander, Wagner, Rashotte, Voeller,

Conway, & Rose, 2001; Vaughn, Wanzek, Murray, Scammacca, Linan-Thompson, & Woodruff, 2009; Vellutino, Scanlon, Small, & Fanuele, 2006). The second model for Response to Intervention is the problem-solving model. The pure problem-solving model utilizes the approach of collecting and interpreting data to determine if there is a clear curriculum, instructional, or student-centered problem. The problem-solving model allows for individual interventions were developed within the general classroom to address student's needs and frequently monitor student's progress (McCook, 2006). This model utilizes data to help drive staff approaches, but it frequently lack defined interventions. The problem solving model was less developed than the standard protocol model.

In addition, McCook (2006) offered six key components of RTI to include when developing and implementing a Response to Intervention Model. According to McCook (2006), these components are: 1) the development and initiation of universal screenings that are administered to all students; 2) the identification of problem areas in measurable terms; 3) the establishment of baseline data; 4) the development of a written accountability plan that utilizes scientifically research based interventions; 5) the establishment and maintenance of a progress monitoring system to ensure fidelity; and 6) the comparison of baseline data with progress monitoring results to determine the validity of the individual evaluations. In general, observing and evaluating the baseline data for a Response to Intervention Model allows the educator to monitor student progress during interventions (Fuchs & Fuchs, 2006). Instructional practices and the appropriateness of interventions are determined based on student achievement and progress during universal screenings and frequent assessments (McCook, 2006).

Fuchs & Fuchs (2006) and McCook (2006) also maintained that the development and implementation of curriculum-based progress monitoring programs are essential components to the success of the RTI process. Initial results from universal screening efforts allow educators to identify and target students' academic deficiencies at an early stage. Universal screenings also allow teachers and administrators to monitor student progress in a particular classroom or curriculum (Chambers, 2008). Screenings and progress monitoring assessments provide data results for teachers that are measurable and objective. Interventions can be designed for students as a result of baseline data that is extracted early in the school year. Students who share similar deficiencies may be grouped together in small group instruction in order to receive similar curricular and instructional interventions based on their shared learning weaknesses (Mesmer & Mesmer, 2008).

Relevant Research Related to Response to Intervention (RTI)

Growing research related to the success and practice of the Response to Intervention Model has continued to support educational programs and interventions related to RTI when they are properly implemented (Boyer & Palenchar, 2008; Fuchs & Deshler, 2007; Fuchs & Fuchs, 2006; Gray, Harmon, & Koutsoftas, 2009; Gresham, Lane, O'Shaughnessy, & Beebe-Frankenberger, 2003; Mesmer & Mesmer, 2008; Vellutino, Scanlon, Small, & Fanuele, 2006; What Works Clearinghouse, 2009). Most research studies related to the current implementation and use of RTI models are based on information from previous intervention studies related to special education guidelines and practices. One of the earliest references to a response to intervention model in education is the findings discussed by Heller, Holtzman, & Messick (1982) in a National

Research Council report. Heller, Holtzman, & Messick (1982) discussed the classification system for special education referrals in public school agencies. In this report, an investigation yielded that special education referrals were evaluated based on the quality of the educational program, the value of the program to produce outcomes for students, and the accuracy and meaningfulness of the assessment process. These criteria are essential to the current methods of screening students within the RTI process. RTI curriculum and system designs require that instructional methods and intervention procedures are accurate, meaningful, and valid in order to ensure that the correct students are referred from one tier level to the next. This form of fidelity was essential to the evaluation principles for special education discussed by Heller, Holtzman, and Messick (1982).

Boyer and Palenchar (2008) monitored the implementation of a Response to Intervention model in West Virginia. Information from this study yielded that RTI programs and initiatives gained momentum throughout the state, and had a dramatic impact on the reading achievement of selected groups of students. The intent of the implementation of the RTI process in this study was to reduce special education referrals as well as introduce a stronger, more concentrated method of indentifying students with reading deficiencies. Fuchs & Deshler (2007) noted in a prospective, longitudinal study of 42 first grade teachers that the RTI method proved to be a positive and successful initiative when instruction and assessments were validated and data-driven. As shown by the underlying components of the RTI process, valid instruction and fidelity of progress monitoring are essential to the success and achievement of struggling students. In an additional study, Fuchs & Fuchs (2006) noted that, “the framework of RTI has strong

potential…we most clearly see its promise in regards to how its multilayered structure can be implemented in early grades to strengthen the intensity and effectiveness of reading instruction for at-risk students" (p. 98).

Early interventions and recent studies. Gray, Harmon, & Koutsoftas (2009) observed the effect of tier 2 interventions for phonemic awareness in a response to intervention model in low income preschool classrooms. The authors in this study showed an increase in the phonemic awareness skills of pre-school students through small group intervention methods over a relatively short period of time. Their findings also indicated that the RTI model could potentially help identify and address the reading deficiencies of struggling students who are at risk for later reading difficulties. Gresham, Lane, O'Shaughnessy, & Beebe-Frankenberger (2003) advocated for the early identification and intervention of at-risk students who showed strong academic and behavioral deficiencies. Their work demonstrated that preventative measures at an early stage yielded significant affects on students deemed at risk for school failure. Gresham et al. (2003) also stated that, "it is now widely accepted that quality early literacy instruction and intervention balances systematic instruction in word recognition and fluency" (p. 2).

Mesmer & Mesmer (2008) offered background and rationale for the effectiveness of a response to intervention model in public schools. They noted in their examples of RTI that the RTI model created "an increase in the quantity and quality of instruction for struggling readers" (p. 289). Mesmer & Mesmer (2008) also attempted to define and outline the Response to Intervention process for reading teachers in order to help them better identify and support students who may be struggling in reading. Vellutino, Scanlon, Small, & Fanuele (2006) assessed the progress of kindergarten and first grade

students who were identified at risk upon entry into each of the respective grade levels. The results of their study suggested that a response to intervention model with appropriate and effective intervention methods is a useful vehicle for preventing early and long-term reading difficulties in at-risk students. Early intervention programs for reading instruction have also been advocated in a number of studies related to practices involving RTI (Berninger, Abbott, Zook, Ogier, Lemos-Britton, & Brooksher, 1999; Catts, Petscher, & Mendoza, 2009; Compton, Fuchs, Fuchs, & Bryant, 2006; Gresham, Lane, O'Shaughnessy, & Beebe-Frankenberger, 2003; Lennon & Slesinski, 1999). These studies incorporated RTI strategies that suggest the need for early instructional intervention in reading.

More recently, What Works Clearinghouse (2009) discussed the benefits and advantages of a multi-tiered intervention system for assisting students who struggle in reading. The What Works Clearinghouse (2009) panel of educators prepared a report for the National Center for Education Evaluation and Regional Assistance. This report reviewed a number of studies that involved Tier 2 interventions for students in Kindergarten through 2nd grade classrooms (Ehri, Dreyer, Flugman, & Gross, 2007; Gunn, Smolkowski, Biglan, & Black, 2002; Jenkins, Peyton, Sanders, & Vadasy, 2004; Mathes, Denton, Fletcher, Anthony, Francis, & Schatschneider, 2005; Vadasy, Sanders, & Peyton, 2005; Vaughn, S., et al., 2006). Each of these studies yielded statistically significant effects on student achievement in at least one of the five essential components of effective reading instruction. These studies were also able to demonstrate the need for progress monitoring, frequency of data collection, duration of interventions, and small group instruction for Tier 2 students in the RTI process. Each study also suggested that

students may benefit strongly from school-wide intervention teams who utilize effective, research based data collection procedures (What Works Clearinghouse, 2009).

Ehri, Dreyer, Flugman, & Gross (2007) discussed an effective tutoring intervention model for language-minority students who were struggling to read in first grade classrooms. Ehri et al. (2007) noted success in phonemic awareness, decoding, reading comprehension, and fluency as a result of intense, frequent Tier 2 interventions. Vaughn, S., et al. (2006) mirrored this study as they reviewed the effectiveness of RTI methods for first-grade ELL students who were at risk for reading problems. Both of these studies revealed significant implications of the RTI process when used with students from multiple language backgrounds. Gunn, Smolkowski, Biglan, & Black (2002) showed significant improvement in vocabulary as a result of supplemental Tier 2 instruction in decoding skills for elementary students over a 56 week period of time. This study also revealed student progress in vocabulary, comprehension and fluency for students who participated in the intense, 25-minute daily sessions of small group instruction.

In addition, Jenkins, Peyton, Sanders, & Vadasy (2004) noted the effects of supplemental reading decodables with first graders over a 25-week period. Jenkins et al. (2004) implemented Tier 2 interventions for 30 minutes a day, four times a week, for almost an entire school year. These students showed strong gains in the areas of decoding as well as overall reading comprehension as a result of one-on-one interventions. Mathes, Denton, Fletcher, Anthony, Francis, & Schatschneider (2005) noted the effects of theoretically different instruction and student characteristics on the skills of struggling readers. Mathes et al. (2005) recommended that students who are a

part of the higher tiers within RTI be progress monitored at least once a month. They explained why cumulative data should be the basis for determining interventions and instructional direction for Tier 2 students. Vadasy, Sanders, & Peyton (2005) showed the effects of reading practice and word-level instruction in one-on-one instruction. Students in this study who received 30 minutes of individualized instruction, four times a week, showed statistically significant progress in reading comprehension over a period of 32 weeks. These studies, combined with research and support from local education agencies, are the foundation for which response to intervention models are implemented within public school systems throughout the United States.

Implementation of the RTI Process

Recent studies have supported the effective implementation of the Response to Intervention process as it pertains to reading comprehension and fluency (Catts, Petscher & Mendoza, 2009; Gray, Harmon, & Koutsoftas, 2009; Gresham, Lane, O'Shaughnessy, & Beebe-Frankenberger, 2003; McCook, 2006; Mesmer & Mesmer, 2008; NASDSE & CASE, 2006, Texas Education Agency, 2009; What Works Clearinghouse, 2009). As noted in the White Papers by NASDSE & CASE (2006), it is important for educators to recognize the varied student differences and backgrounds when implementing the RTI process in a school system. As previously explained by Harris & Hodges (1995), student background knowledge is essential to the learning, discovery, and understanding of new concepts. Students must maintain adequate background knowledge to make appropriate learning connections for reading comprehension (Beck & McKeown, 2001; Recht & Leslie, 1988). RTI suggests that student background variables, instructional and curricular variables, progress data, and auxiliary variables be considered when identifying

the needs and interventions for struggling learners (McCook, 2006). At the same time, an organized process is necessary for identifying and addressing the specific learning weaknesses of students in public schools.

In the day-to-day school environment, the Response to Intervention process is made up of three learning Tiers for identification purposes: Tier 1, Tier 2, and Tier 3. Tier 1 interventions focus on large group instruction in the regular education setting. In Tier 1, teachers have the opportunity to provide preventative interventions for students in the general education classroom. Tier 1 instruction is designed to address the learning needs of 80-85% of students. Local agencies traditionally use a variety of interventions during Tier 1 instruction including: universal screening, classroom progress monitoring, class-wide intervention strategies, push-in assistance, and computer-based instructional resources (McCook, 2006; NASDSE & CASE, 2006). During Tier 1 for struggling readers, the classroom teacher should be sure to: collect relevant data on the student's progress, implement intervention strategies and progress monitoring for 4-6 weeks, meet with grade level team members for insight and discussion, and contact the learner's parent or guardian to communicate concerns regarding the student's performance (Catts, Petscher, & Mendoza, 2009; McCook, 2006). In Tier 1, if a student is still unsuccessful after 4-6 weeks, then he or she is elevated to Tier 2 for more intense reading interventions. Intervention team members may also determine that a student's progress is adequate during the initial 4-6 week time period. If this is the case, an intervention team may decide to keep a student in Tier 1 (McCook, 2006; NASDSE & CASE, 2006).

Tier 2 interventions usually involve targeted, small group pull-out assistance. Small group assistance in Tier 2 traditionally involves a teacher-student ratio of 1:5-10.

Tier 2 students normally spend 30 minutes per day in small group instruction, but they should also be receiving continued instructional services through Tier 1 (McCook, 2006; NASDSE & CASE, 2006, What Works Clearinghouse, 2009). Tier 2 instruction is designed to address the learning needs of 10-15% of a school's population. These students should be progress monitored on a weekly basis to ensure fidelity of interventions and performance results. During Tier 2, teachers and specialists should: implement more specific instructional interventions, collect bi-monthly data for 4-6 weeks, meet and discuss student data and progress, share lessons and strategies every 2 weeks, and analyze intervention methods (Gray, Harmon, & Koutsoftas, 2009; Mesmer & Mesmer, 2008; NASDSE & CASE, 2006). If instructional services are still not effective and/or students are not responding to Tier 1 or Tier 2 interventions, then an intervention team may determine that it is best to elevate a student to Tier 3 of the RTI process. Based on performance data and teacher collaborative efforts, movement between these Tiers should be a fluid process for struggling students (McCook, 2006).

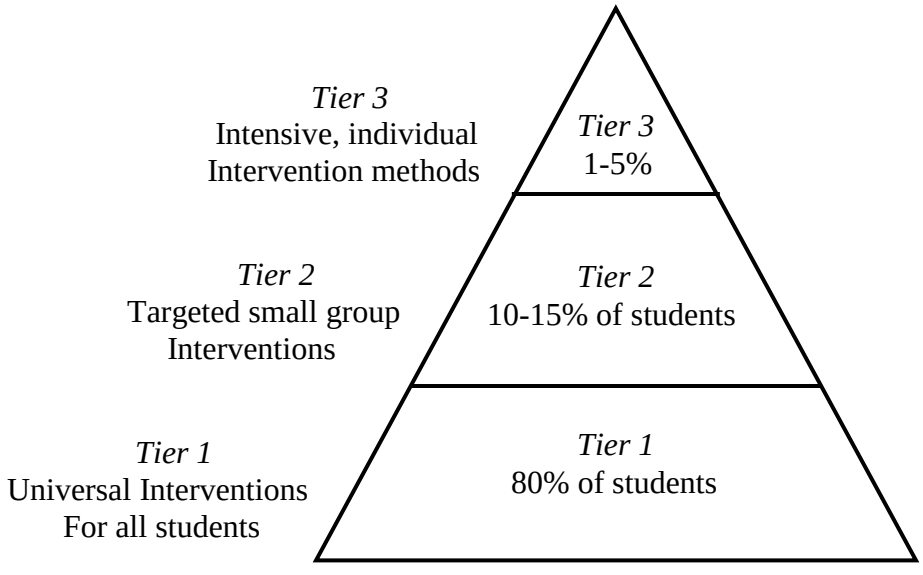

Figure 2. Response to Intervention (RTI) Multi-Tiered System

Tier 3 interventions involve more intense, formalized problem solving methods to help identify individual student learning needs. Tier 3 methods also entail a variety of targeted, research based interventions tailored to help improve the specific learning deficiencies of individual students (McCook, 2006; NASDSE & CASE, 2006; What Works Clearinghouse, 2009). Students in Tier 3 of the RTI framework should receive more intense, diagnostic interventions than students in Tier 1 or Tier 2 of RTI (McCook, 2006). Students in Tier 3 should comprise approximately 1-5% of the student population (NASDSE & CASE, 2006). Tier 3 also involves more frequent progress monitoring and analysis of student responses to individualized instruction. Tier 3 students usually receive individualized instruction at a ratio that is equal to or less than 1:3. These students may spend anywhere from 45-60 minutes in individual or small group instruction in addition to receiving their continued instructional services through Tier 1 and Tier 2 interventions (McCook, 2006). Tier 3 students are progress monitored on a weekly basis. All instructional interventions for Tier 3 students should be custom-designed for the individual students (McCook, 2006; NASDSE & CASE, 2006; What Works Clearinghouse, 2009).

Benefits of the RTI Process

The literature discussed a number of benefits and advantages to the use and implementation of a Response to Intervention model (Compton, Fuchs, D., Fuchs L., & Bryant, 2006; Elliot, 2008; Gray, Harmon, & Koutsoftas, 2009; McCook, 2006; McEneaney, Lose, & Schwartz, 2006; Mesmer & Mesmer, 2008; NASDSE & CASE, 2006; Vaughn & Fuchs, 2003; Vellutino, Scanlon, Small, & Fanuele, 2006; What Works

Clearinghouse, 2009). Early screening and identification of student deficiencies within the RTI context have also been supported by recent studies (Catts, Petscher, & Mendoza, 2009; Compton, Fuchs, Fuchs, & Bryant, 2006; Gresham, Lane, O'Shaughnessy, & Beebe-Frankenberger, 2003; Lennon & Slesinski, 1999). Elliot (2008) noted that, "Response to Intervention is the practice of providing high-quality instruction and intervention matched to student need, monitoring progress frequently to make decisions about changes in instruction or goals, and applying student response data to important education decisions" (p. 10). In essence, Response to Intervention provides teachers with an opportunity to help struggling learners in an organized, effective manner.

Vaughn & Fuchs (2003) noted that the Response to Intervention model yielded several promising advantages: 1) it helps identify struggling students using a risk (not a deficit) model; 2) it provides early intervention and instruction for identified students; 3) it reduces identification bias; and 4) it maintains a strong focus on student learning outcomes. When well-implemented, the Response to Intervention Model has the ability to foster collaboration between general education and special education teachers (Chambers, 2008; VanDerHeyden, Witt, & Barnett, 2005; Vaughn & Fuchs, 2003). Vaughn & Fuchs (2003) also discussed how an RTI model has the potential to reduce bias in the referral process for students with learning disabilities. RTI allows teacher to screen and track a large number of students for the sole purpose of identifying and addressing the learning needs of struggling students (NASDSE & CASE, 2006).

McEneaney, Lose, & Schwartz (2006) identified three advantages of the RTI system: 1) students do not need to wait for failure in order to be eligible for support; 2) the RTI process avoids problems commonly associated with the process-deficit and

discrepancy models; and 3) RTI grounds interventions in research-based instruction, an enhanced diagnostic process, and intense, problem solving approaches. By design, the RTI process differentiates instructional approaches for students in terms of comprehensive understanding and individualized intensity. The advantages discussed by McEneaney, Lose, & Schwartz (2006) indicated a growing shift in the approaches used by educators in the identification and intervention methods for students who struggle academically and behaviorally.

Donovan & Cross (2002) maintained that the RTI process has the potential to significantly reduce the overrepresentation of selected minority groups who receive special education services. They also noted that, while boys are oftentimes over referred for special education services, girls are sometimes under referred for these services (Donovan & Cross, 2002). The authors supported the potential for the RTI process to effectively address and offer a substantial reduction in these issues. In the past, a teacher's decision to refer a student for special education services was largely influenced by non-academic factors such as a student's ethnicity, socioeconomic status, or cultural background (VanDerHeyden, Witt, & Barnett, 2005). The RTI process requires educators to systematically gather pools of data and student progress over time in order to support the educational need for special education services. A teacher's assumptions, feelings, and intentions can no longer be a driving factor in the referral process within the Tiers of RTI (VanDerHeyden et al., 2005).

Elliot (2008) supported the use and implementation of the RTI model as a method of intervening and addressing student's reading deficiencies in an organized, data-driven manner. The RTI process maintains a structure of checks and balances in the educational

system in order to effectively identify, monitor, and address areas of weakness in student learning. Mesmer & Mesmer (2008) stated:

> RTI is a new approach to identifying students with specific learning disabilities and represents a major change in special education law, the Individuals with Disabilities Act (IDEA). This change shifts the emphasis of the identification process toward providing support and intervention to struggling students early and is similarly reflected in the Reading First provisions of No Child Left Behind, which calls for proven methods of instruction to reduce the incidents of reading difficulties. (p. 280)

As a result of these proponents of the Response to Intervention process, as well as the need to address students' reading deficiencies, public schools continue to search for research-based interventions to help identify and address the learning deficits of struggling readers. RTI is the nation's strongest attempt to provide an effective alternative to the discrepancy model. The research has indicated that teachers, administrators, parents, and students stand to gain from the effective implementation of this intervention process.

CHAPTER THREE

Research Methodology

This mixed-methods study examined the effects of the "Rally to Read" program on the reading progress of selected students. The "Rally to Read" program was utilized as a research based intervention strategy for students classified as Tier 3 in the Response to Intervention (RTI) process. The RTI model was designed to address academic learning needs, but it is also a system for recognizing and correcting students' academic learning deficiencies. School districts in Texas have had difficulties with the selection and implementation of programs and interventions for learners who struggle in reading. Marketing research-based computer software has become a growing industry in the United States due to the need for these programs as part of the RTI process. In this study, the Tier 3 students in two Texas schools were monitored within the RTI process. These were the students who had the most difficulties in reading comprehension. The "Rally to Read" program was utilized as a Tier 3 intervention method for one of these schools. Both campuses implemented the Imagination Station (I-station) progress monitoring system throughout the school year. This progress monitoring tool was used to determine the impact and/or effectiveness of the "Rally to Read" program as a Tier 3 intervention.

The students in this study were placed in Tier 3 of the RTI process due to their identified reading deficiencies. These students failed to display significant growth in reading comprehension in Tier 1 or Tier 2 of the RTI model. Consequently, these students received more intense, individualized instruction (a ratio of 1:3) from the schools' instructional specialists, teachers, and paraprofessional staff members. They

spent approximately 45 minutes each day in individual or small group instruction. At the same time, these students continued to receive instructional services through Tier 1 and Tier 2 interventions. They were also progress monitored throughout the school year. Each student was given an I-station assessment eight separate times between September and May of the given school year. All of the students on both campuses were given these assessments at approximately the same time of year during each of the schools' nine week grading periods.

On Campus A, Tier 3 for reading assistance involved the "Rally to Read" program. "Rally to Read" was designed to identify the specific area of a student's reading difficulty through progress monitoring and pre/post assessment interventions. The "Rally to Read" program was designed by the Center for Learning and Development (CLD), a service division of Behavioral Health Institute, located in central Texas. "Rally to Read" is an intensive reading remediation program built upon research by the National Institutes of Health. "Rally to Read" is primarily technology-based. It incorporates five primary skill areas related to reading improvement: phonological awareness, phonics, fluency/rate, vocabulary, and comprehension. For this study, the "Rally to Read" program was used on Campus A as part of a Tier 3 intervention program. The progress of students who received "Rally to Read" services were compared to students on another campus who did not receive "Rally to Read" services. Imagination Station (I-station) was the tool used to gauge these students' performances in Tier 3.

Methods

This mixed-methods study examined the impact and effectiveness of the "Rally to Read" program, designed by the Center for Learning and Development (CLD), as a Tier

3 intervention method within the Response to Intervention (RTI) process. Data from the Imagination Station monitoring program was used to evaluate the progress of students throughout the school year on two campuses. The quantitative measure for this study incorporated I-Station data in order to provide specific examples of student progress. This data was used to evaluate the effectiveness of the "Rally to Read" program. The Imagination Station data related to reading fluency and reading comprehension was the primary monitoring tool used for this study's data comparison and program evaluation.

The qualitative element of this study involved the solicitation of feedback and opinions of participants regarding the "Rally to Read" program. Campus A serviced eleven students using the "Rally to Read" program. The staff members involved with this program were surveyed in regards to their experiences with "Rally to Read." Adults on Campus B were also surveyed. Staff members on both campuses were asked questions related to their participation, student involvement, working environment, and personal opinions about the programs. These teachers and paraprofessionals were also prompted to write additional comments and feedback about the programs that were not connected to the initial program questions.

Operational Research Questions

The "Rally to Read" program was designed to target students who struggled in reading comprehension and decoding. This study utilized data from the Imagination Station assessment program to evaluate the reading progress of these particular students. According to scientific research generated by the National Reading Panel (NRP), there are five essential components of reading that children must be taught in order to learn to read: phonemic awareness, phonics, vocabulary, comprehension, and fluency. These five

components are the research-based background for the design of the “Rally to Read” program. “Rally to Read” allowed for differentiation and student movement from one skill area to another during instruction on Campus A of this study. Students moved from one station to another in 20 minute increments in order for “Rally to Read” to address each of the five essential components of reading. In the “Rally to Read” design on Campus A, there were two *Lexia* stations that addressed phonics rules. The *Lexia* program taught students to learn skills in sequence through fun, computerized activities. There were two *Read Naturally* stations that addressed students’ rates of reading and reading fluency. *Read Naturally* utilized multiple strategies and manipulatives in order to help students enjoy reading. There was one LIPS (Lindamood Phoneme Sequencing Program) station designed to address phonemic awareness. The LIPS program helped students with language processing, confidence, and self-correction. The last station addressed reading comprehension using *Read Naturally* comprehension maps and/or *Don Johnston* Multi-Media Books. *Don Johnston* Multi-Media Books helped build comprehension knowledge through the use of drawing pictures with texts and sounds. In addition to these resources through “Rally to Read" on Campus A, students continued to take I-Station progress monitoring assessments throughout the 2008-2009 school year.

The primary research question for this study was:

1. *Did the “Rally to Read” program in Tier 3 increase the achievement of struggling readers when compared to Tier 3 students in another school who were not receiving “Rally to Read” services?*

Other relevant secondary questions in this study included:

1) How did the achievement scores of students, as measured by I-station assessments, who were involved in the "Rally to Read" program, change over time?

2) Did the amount of time spent on the I-station curriculum impact the achievement of students in the "Rally to Read" program when compared to non-participants?

3) Did student behavior change, as measured by office referrals, in response to participation in the "Rally to Read" program?

4) What were the perceptions of teacher and staff who supervised the "Rally to Read" program?

5) Did teacher backgrounds and training affect the implementation of the "Rally to Read" program or the achievement of "Rally to Read" students?

In order to answer these questions, this study collected quantitative and qualitative data from the participating schools. As shown within the RTI model, students who received "Rally to Read" services also received Tier 1 and Tier 2 services. Students' progress and reading comprehension rates resulting from "Rally to Read" services were measured through the "Imagination Station" online progress monitoring system. At the same time, the individual teachers and paraprofessionals involved with the "Rally to Read" program on Campus A were given the opportunity to answer questions and provide feedback about the program's effectiveness. Adult participants on Campus B were also surveyed. Adults on both campuses were asked to comment on the effectiveness of the Imagination Station assessment pieces during the surveys. The teachers and assistants on both campuses were asked to provide subjective feedback regarding their experiences with these programs. The survey responses of these adults

who were involved with these programs served as the primary component of the study's qualitative research data.

The survey questions for the adult participants in the "Rally to Read" program were:

1. To what extent do you feel that "Rally to Read" has been an effective reading program for these students? Why or why not?

2. To what extent do you feel the "Imagination Station" program was a successful progress monitoring tool? Why or why not?

3. Can you briefly describe your experience with these programs? Did you enjoy working with them?

4. Can you discuss your educational background as well as your training with regard to the "Rally to Read" and the "Imagination Station" monitoring programs?

5. Can you tell me about your relationships with the students who participated in reading intervention opportunities?

6. Do you feel that "Rally to Read" has impacted student behavior as well as academic progress? Why or why not?

Similar questions were provided to the adult participants on Campus B. The opinions and feedback of the staff members on both campuses were analyzed in connection with the students' I-station scores in order to evaluate "Rally to Read" as an intervention method for Tier 3 of the RTI process.

Variables

In this study, the "Rally to Read" program in Tier 3 served as the independent variable. It was only used on Campus A with eleven students selected from 3rd and 4th grade classrooms. Both campuses in this study were able to use the Imagination Station

reading assessment curriculum during the school year. The resulting scores from the I-station assessments served as the dependent variables. The usage time for each of the selected students was included in this study in order to compare the students' achievement within the program. Campus A utilized "Rally to Read," and it also used Imagination Station as a progress monitoring tool. Imagination Station has a curriculum component as well as a progress monitoring assessment within its program. Campus A allowed students to work with the I-station program in addition to "Rally to Read." Campus B utilized the I-station software's reading curriculum as its only means of Tier 3 intervention. This was an important variable in the study. The usage time for both schools was significantly different. Campus A spent some time using the I-station curriculum component, but not as much time as Campus B. Campus B spent the majority of its time using the I-station curriculum, since I-station was the school's sole means of Tier 3 intervention.

There were also a variety of variables when measuring the day-to-day effectiveness of the "Rally to Read" program. The teachers' abilities to implement the programs had an impact on the student's understanding of the basic skills. Also, teacher administration of the computer programs was a variable. Teachers needed to be aware of how to manipulate the programs so as to best address the specific needs of the struggling learners. This understanding of "Rally to Read" was a result of training and immersion in the "Rally to Read" software and remediation station components. Survey feedback indicated that some staff members had worked with students in reading remediation prior to the implementation of "Rally to Read." Two of the paraprofessionals stated that they were new to the RTI setting.

Teacher connections were also a variable in the implementation process of I-station and Tier 3 interventions. Some of the staff members indicated that they had already built relationships with the students in the Tier 3 program. Several of the paraprofessionals involved in "Rally to Read" expressed a strong desire to help their students succeed in the reading program because of previously built relationships with those students. At the same time, some of the students in "Rally to Read" were new to the program and/or new to the school. Teachers' tendencies to foster student success through personal relationships were frequently noted during survey feedback. This educational aspect is a common variable during most forms of reading instruction for elementary students who struggle with comprehension.

In addition, there were several student variables that were notable regarding student achievement in the "Rally to Read" program. Student responses, student backgrounds, classroom settings, and student motivation were all factors that contributed to the students' abilities to respond to the program components. The student population on both campuses in this district suggested that several of the students receiving "Rally to Read" and "Imagination Station" services may have had family or social issues at home. The students' abilities and/or inabilities to focus and concentrate were noteworthy influences regarding the outcome of these assessments.

Research Design

This mixed-methods study examined the value and efficacy of the "Rally to Read" program, designed by the Center for Learning and Development (CLD), as a Tier 3 intervention method within the RTI model. Data were collected from the Imagination Station software program in order to identify the performances of select student groups.

This program gauged students' fluency and ability based performances during frequent assessments throughout the school year. In this study, the comprehension fluency scores and timed reading with meaning scores from student groups were the main sources of data from the I-station program. Two campuses, Campus A and Campus B, utilized the I-station program throughout the school year. Data from this program was used to help evaluate the progress of students on Campus A who were also receiving "Rally to Read" services. Each of these programs was a part of the RTI initiative designed to help struggling learners in public schools.

Participants and Setting

The "Rally to Read" program was implemented in a Texas school, Campus A, that housed 646 students. The eleven students on Campus A who received "Rally to Read" services were part of Tier 3 in the RTI process during the 2008-2009 school year. This study compared the progress of the Tier 3 students in School A, who were receiving "Rally to Read" services, with the progress of Tier 3 students in School B, who were *not* receiving "Rally to Read" services. The selected students from both schools were progress monitored and assessed four times per semester using the "Imagination Station" (I-station) assessment program. The teachers and staff members in this study were also surveyed regarding their participation in the "Rally to Read" process. Both of these campuses were located in a school district in the central Texas region.

Campus A was the most ethnically and economically diverse school in the given school district. The design of Campus A consisted of two Pre-Kindergarten classes and six sections each of Kindergarten, 1st, 2nd, 3rd, and 4th grade classrooms. Campus A housed two sections of PPCD (Pre-School Program for Children with Disabilities) and

three sections of EPCD (Elementary Program for Children with Disabilities). The campus also maintained several pull-out auxiliary programs including ELL, GT, Special Education Resource, Content Mastery, Math Specialist small-group rotations, and Reading Specialist small-group rotations.

Table 2

*Student Demographic Information – Campus A**

Students by Grade – Campus A			Demographics – Campus A		
EPCD/PPCD	14	2.2%	African American	102	15.8%
Pre-Kindergarten	51	7.9%	Hispanic	136	21.0%
Kindergarten	123	19.0%	White	365	56.5%
1st Grade	104	16.1%	Native American	5	0.8%
2nd Grade	129	20.0%	Asian	38	5.9%
3rd Grade	117	18.1%	Low Socio-economic	295	45.7%
4th Grade	108	16.7%	LEP	52	8.0%
Total Students	646	100%	At-Risk	209	32.4%

Note: n=646 (AEIS Report for the Texas Education Agency 2008-2009 school year).
*Some students may be represented in more than one category.

Campus A was built in 1979. The average teacher had between 6 and 12 years of classroom teaching experience. School A employed one principal, one assistant principal, and one full-time campus counselor. Campus A received the TEA Accountability Rating of "Exemplary" since the 2005-2006 school year. Of the eleven Tier 3 students on Campus A who received "Rally to Read" services, seven of these students were reportedly enrolled on Campus A since his or her Kindergarten school year. In addition to "Rally to Read" services, adult participants noted that seven of these students also received pull-out math instructional services during the school year.

According to staff members, only two of these students displayed severe misbehavior during the course of the school year.

Table 3

Student Demographic Information – Campus A Participants

Identifying Data	# of Campus A Participants	% of Campus A Participants in Group
Male	5	45%
Female	6	55%
White	5	45%
African American	3	27%
Hispanic	3	27%
3rd Grade	6	55%
4th Grade	5	45%
Tier 3 Math	2	18%
Total Students	11	100%

Surveys indicated that the adult participants in the "Rally to Read" program consisted of one reading specialist, one certified classroom teacher, and two paraprofessionals. These individuals worked the four stations within the "Rally to Read" program on a daily basis, and they were also actively involved in the "Imagination Station" progress monitoring piece of the curriculum. These teachers and paraprofessionals rotated between *Lexia* (phonics), *Read Naturally* (Rate & Fluency), *LIPS* (Phonemic Awareness), and *Comprehension* stations on a weekly basis. This allowed them to get to know all of the students and his or her areas of weakness. Each adult member of the program had been previously employed on Campus A prior to

working with "Rally to Read." Three of the four adults had been working with the "Rally to Read" students in some capacity prior to this study. All of these adult participants were working with reading remediation in some form prior to working with "Rally to Read." Each of these participating adults was given the opportunity to answer survey questions related to the program at the end of the given school year. They provided their professional and personal opinions about the "Rally to Read" program to the researcher through survey feedback.

Table 4

*Student Demographic Information – Campus B**

Students by Grade – Campus B			Demographics – Campus B		
EPCD/PPCD	1	0.2%	African American	75	11.4%
Pre-Kindergarten	0	0.0%	Hispanic	110	16.8%
Kindergarten	108	16.5%	White	445	67.8%
1st Grade	130	19.8%	Native American	2	0.3%
2nd Grade	136	20.7%	Asian	24	3.7%
3rd Grade	145	22.1%	Low SES	176	26.8%
4th Grade	136	20.7%	LEP	23	3.5%
Total Students	656	100%	At-Risk	185	28.2%

Note: n=656 (AEIS Report for the Texas Education Agency 2008-2009 school year).
*Some students may be represented in more than one category.

Campus B was the second most ethnically and economically diverse school in the given school district. Similar to Campus A, this campus also maintained several pull-out auxiliary programs including ELL, GT, Special Education Resource, Content Mastery, Math Specialist small groups, and Reading Specialist small groups. The average teacher had between 9 and 13 years of classroom teaching experience. Campus B employed one

principal, one assistant principal, and one campus counselor. Campus B received the TEA Accountability Rating of "Recognized" since the 2005-2006 school year.

Of the eleven Tier 3 students on Campus B who did not receive "Rally to Read" services, adult participants noted that one of these students received ELL services throughout the school year. This student also reportedly received increased instructional services through RTI from Campus B's math and reading instructional specialists. Survey feedback also indicated that six of these Tier 3 students were enrolled on Campus B since his or her Kindergarten school year, and two of these students also received pull-out math instructional services. Adult participants only indicated that one of these students displayed significant misbehavior during the course of the school year.

Table 5

Student Demographic Information – Campus B Participants

Identifying Data	# of Campus B Participants	% of Campus B Participants in Group
Male	7	64%
Female	4	36%
White	7	64%
African American	2	18%
Hispanic	2	18%
3rd Grade	6	55%
4th Grade	5	45%
Tier 3 Math	2	18%
Total Students	11	100%

The adult participants on Campus B who serviced students in the "Imagination Station" program consisted of one reading specialist, one certified classroom teacher, and

two paraprofessionals. Each adult member of the program had been employed in School B prior to working with the I-station program. Survey feedback indicated that three of the four staff members had been working with the selected students in some capacity for the past two years. Prior to this study, all of these staff members had worked with students who struggled in reading in some form on Campus B. Three of the four adults were familiar with Imagination Station prior to the given school year, and they had worked with the program on the campus. Similar to Campus A, each staff member was given the opportunity to answer survey questions related to the Imagination Station program and small group Tier 3 pull-out at the end of the school year.

The instructional setting for the "Rally to Read" and "Imagination Station" interventions were similar on both campuses of this study. Both campuses utilized small group pull-out methods for their respective Tier 3 curriculum components. The "Rally to Read" stations on Campus A were arranged on two sides of the room where instructional specialists frequently worked with students in groups of 5 or less. On Campus B, the "Imagination Station" curriculum was administered in a similar manner. Adult participants on Campus B worked with students at small group tables in a pull-out setting separate from the general education classroom. Both campuses provided positive, relational reinforcement for students during their time in the Tier 3 settings.

Quantitative Data

The Imagination Station assessments were administered four times throughout each semester to all of the students in Tier 3. This was done on both campuses in this study. I-station lessons and curriculum materials allowed for additional instruction and practice as needed for each individual student. Lessons were grouped by skill.

Supplemental materials, passages, interactive workbooks, poetry, stories, and games were provided within the program in order to help enhance to enjoyment of I-station practice and progress monitoring. The progress monitoring assessments for this study were all a part of the Imagination Station (I-station) monitoring program, and these assessments were designed to evaluate the progress of students' in a variety of reading areas. For this study, the areas of comprehension fluency and timed reading g with meaning were the primary scores used to help in the evaluation of "Rally to Read." The first sets of scores that were collected from the Tier 3 student groups were from the comprehension fluency assessments in the I-station program. These scores were determined from the variety of comprehension-based activities that existed within the assessment piece. This included beginning sound, letter sound, letter recognition, and comprehension fluency elements of reading instruction. The scores also included activities connected to phonemic blending, word/picture identification, and nonsense word fluency. These fluency scores were averaged and compared during each assessment period (Beginning, Middle and End of Year).

The students who received "Rally to Read" services were involved in small group lessons that addressed the same areas of weakness in reading. Through "Rally to Read," the five essential components of research based reading programs were addressed throughout the school year while being evaluated by the Imagination Station progress monitoring tool. Based on the results of benchmark and continuous monitoring assessments, each of the Tier 3 student groups were given *comprehension fluency rates* and a *timed reading with meaning rates* eight times during the school year. These fluency rates were the main source of quantitative data provided by the students'

achievement scores. In addition, the benchmark tests within the I-station program allowed for individual student progress throughout the school year.

If a student was making significant progress, then the benchmark assessments increased the level of difficulty for the student's next benchmark test. This allowed for variances in the students' scores throughout the school year. In general, each I-station benchmark test offered the same questions and reading prompts that were presented in the classrooms and small group lessons for third and fourth grade. Students also participated in assessments that addressed timed reading with meaning, vocabulary, and nonsense word decoding when they took benchmark tests and continuous monitoring assessments. These fluency, comprehension, and question completion scores allowed the researcher to evaluate the progress of the Tier 3 student groups in "Rally to Read" when compared to other students in the neighboring school. Most noteworthy, the students on Campus A who took these I-station assessments spent most of their remediation time in the "Rally to Read" program. The students on Campus B only worked with the I-station curriculum component during the same time period.

Qualitative Data

The qualitative data in this study was comprised primarily of survey questions and feedback from the adult participants on both campuses who were involved with "Imagination Station" and "Rally to Read" programs. These adults answered questions pertaining to their experiences with the programs, students, and colleagues during the school year. Each adult was made aware of the study, its design, and its goals for program evaluation. The opinions of the teachers and paraprofessionals about the programs as well as their perceptions regarding student success were factored into the

analysis of the “Rally to Read” program’s effectiveness. The teachers’ and paraprofessionals’ experiences contributed to their desire to be a part of the “Rally to Read” program. Survey feedback indicated that the student groups that were chosen for the “Rally to Read” program had previously worked with many of the adults involved in this process. Their relationships with these students were examined regarding the overall success of the students and the reading remediation program.

Instrumentation

The I-station test measures in this study were designed to gauge the overall success and/or effectiveness of the “Rally to Read” program. In order to determine if “Rally to Read” helped students make significant strides in reading, the “Rally to Read” program served as the independent variable on Campus A. Campus A and Campus B both utilized the “Imagination Station” progress monitoring program. Both of these programs contained a reading remediation curriculum for students who struggled in reading. Campus A utilized “Rally to Read” as its primary reading intervention approach for Tier 3 students. Campus B used the “Imagination Station” program as its primary reading intervention for Tier 3 students. At the same time, both campuses monitored the comprehension fluency and timed reading with meaning scores of the students working with these programs through I-station assessments. All of the I-station assessments were administered at approximately the same time of the month on each of the targeted campuses. The Tier 3 students on both campuses participated in the I-station progress monitoring component at least once a month. The “Rally to Read” program and the “Imagination Station” curriculum were both monitored and evaluated using the I-station progress monitoring software throughout the school year.

"Rally to Read" (Quantitative)

"Rally to Read" utilized several subprograms and components in order to address the five essential areas of research based reading remediation. These five components included: phonological awareness, phonics, fluency, vocabulary, and comprehension. As a whole, "Rally to Read" was made up of four stations. These stations incorporated one-on-one instruction, targeted lessons, interactive software, and computer-based comprehension rotations. The first station centered on the *Lexia* software program. The *Lexia* program was designed to address a variety of areas in reading. The *Lexia* was used as the phonics component for "Rally to Read." With *Lexia*, students learned skills in sequence and built understanding through computerized diagnostic activities. *Read Naturally* was used to address rate and fluency in the second station within the "Rally to Read" program. The *Read Naturally* program was designed to help students become better readers through multiple strategies of instruction. *Read Naturally* provided multiple tools, graphs, timers, quizzes, and crossword puzzles in order to help motivate students to enjoy reading. *Lexia* software and the *Read Naturally* program are both research-based reading interventions for students who struggle in reading comprehension.

"Rally to Read" also addressed phonemic awareness and reading comprehension in its station rotations. The third station implemented the Lindamood Phoneme Sequencing Program (LIPS) for phonemic awareness. The LIPS program aimed to address the phonemic weaknesses of the Tier 3 students in several ways. Specifically, the program was designed to help students who omit, substitute, and/or reverse sounds and letters within words. LIPS works with students of all ages to help enhance language

processing, confidence, and self-correction. The LIPS program emphasized processing skills as the key to enhanced phonemic awareness for reading improvement.

The fourth station in the "Rally to Read" program was composed of several different approaches, but it primarily addressed the area of reading comprehension. Depending upon the student's individual needs related to comprehension, the fourth station of "Rally to Read" provided different curricula. There were three possible curriculum options available to students using the fourth station. This first option included *Read Naturally Comprehension Maps* in connection with *Don Johnston Multi-Media Books*. The *Don Johnston Multi-Media Books* were comprised of an online software support designed to help build critical literacy skills for modeling scaffolding, and independent thinking. The second option for station four was *Study Hall 101*. *Study Hall 101* was designed by CLD to help students who showed significant delays in vocabulary. *Study Hall 101* utilized individual instruction, flashcards, and online assessments to help a student enhance his or her knowledge of vocabulary words. The third option for station four was the multisensory reading model called *Earobics*. *Earobics* was used if a student was significantly delayed in phonemic awareness. *Earobics* intervention utilized manipulatives, alphabet mats, letter sets, picture/word cards, and letter-sound review decks to help students who showed significant delays in phonemic awareness. These three options (*Read Naturally Maps/Don Johnston*, *Study Hall 101*, and *Earobics*) for the fourth station of "Rally to Read" were based on the comprehension deficiencies of the individual students. On Campus A, *Study Hall 101* was the primary option utilized for the Tier 3 students in this study.

"Imagination Station" (Quantitative)

The Imagination Station served as the dependent variable in this study. The scores from this program evaluated the reading progress of students on both of the selected campuses. Two components of reading remediation were the focus of the data in this study. The assessment measures from the Imagination Station program provided comprehension and fluency rates based on two primary I-station components: comprehension fluency and timed reading with meaning. These two areas were addressed within the Imagination Station curriculum component as well as the "Rally to Read" program. The Imagination Station progress monitoring system incorporated a variety of activities to help gauge students' understanding of these areas.

The first component of the I-station scoring in this study, comprehension fluency, measured the students' ability to read and understand grade-leveled sentences and paragraphs. The activities for this component allowed students to match sentences and pictures for understanding sentence completion. Students read sentences and identified pictures that best illustrated the sentence meanings. This element also incorporated sentence completion exercises. Sentence completion statements helped measure the students' abilities to use word meanings and word order to understand a sentence. This approach allowed the teacher to gauge student progress based on visualization exercises as well as independent practice.

The second component of the I-station scoring in this study evaluated timed reading with meaning. This component measured the students' abilities to read fluently while comprehending the meaning of the written text. For each of these activities, a story (or sections of a story) which utilized every fifth or sixth word was left blank from a

section of the text. Students were given three choices for each blank, and they were asked to choose the word that best completed the sentence. Each of the students was given the opportunity to go through a guided practice lesson with the instructor. The staff member would read aloud a part of the story while filling in the missing blanks for the students. After modeling the task for each of the students, the small group was expected to read the given text and select the correct maze response during a period of two full minutes. This was to be done without interruption on an individual basis. Traditionally, the students were told that the timing element was for fun. Upon completion of the task, the I-station assessment piece used the student data to help determine the *timed reading with meaning rate* for that particular student.

In addition, these two components also included nonsense word decoding activities. Nonsense word decoding measured the student's ability to blend letters into nonsense words in which the given letters represented their most common sounds. Four nonsense words appeared on a screen, and the students were asked to identify the word spoken by the narrator. These nonsense word fluency lessons included several different tasks. The teacher's job was to introduce the lesson in a manner that was fun and exciting for the students. The adult was supposed to teach the lessons in a game format where the students were creatively challenged to find the "made-up" word in the prompt. After a model lesson, the students were asked to complete some of the activities independently.

In general, these activities were designed to help teach reading remediation as well as monitor students' progress in a fun, exciting manner. The I-station curriculum, as well as the "Rally to Read" program, allowed for adequate teaching and monitoring time

for the individual students. These remediation programs provided teachers with immediate feedback regarding students' progress, strengths, and weaknesses in the area of reading comprehension. Ultimately, these I-station progress monitoring tools were used to evaluate the curriculum pieces and student successes in relation to both reading programs.

Program Survey Questions (Qualitative)

The information that was gathered from the participants for the qualitative measure of this study included survey questions and feedback related to the effectiveness of the "Rally to Read" program. The teachers and staff members involved in the program were given an opportunity to provide feedback to the researcher regarding opinions, perspectives, and experiences with the "Rally to Read" program. Each of the participants was surveyed separately. All survey data was kept confidential. All survey questions were open-ended, and they were the same for each participant. Additional space was provided on the surveys to allow for opinions and auxiliary feedback. As stated earlier, the survey questions for the adult participants on Campus A included:

1. To what extent do you feel that "Rally to Read" has been an effective reading program for these students? Why or why not?

2. To what extent do you feel the "Imagination Station" program was a successful progress monitoring tool? Why or why not?

3. Can you briefly describe your experience with these programs? Did you enjoy working with them?

4. Can you discuss your educational background as well as your training with regard to "Rally to Read" and the "Imagination Station" monitoring programs?

5. Can you tell me about your relationships with the students who participated in reading intervention opportunities?

6. Do you feel that "Rally to Read" has impacted student behavior as well as academic progress? Why or why not?

The survey questions were designed to help the researcher receive additional insight into the practices of the teachers and the behaviors of student groups within the "Rally to Read" program. In order to compare the perceptions and opinions of the adult participants on both campuses, these survey questions were also given to the adult participants on Campus B. The Campus B adult participants could only comment on the "Imagination Station" program, since they had not worked with "Rally to Read." Since the Imagination Station progress monitoring tool was also used by the student groups on both campuses of the study, questions related to the I-station monitoring were included in the surveys for both campuses. The survey questions for the adult participants on Campus B included:

1. To what extent do you feel that "Imagination Station" has been an effective reading program for these students? Why or why not?

2. To what extent do you feel the "Imagination Station" program was a successful progress monitoring tool? Why or why not?

3. Can you briefly describe your experience with this program? Did you enjoy working with it?

4. Can you discuss your educational background as well as your training with regard to the "Imagination Station" monitoring program?

5. Can you tell me about your relationships with the students who participated in reading intervention opportunities?

6. Do you feel that "Imagination Station" has impacted student behavior as well as academic progress? Why or why not?

Validity and Reliability

The validity and reliability of the "Rally to Read" program is based on specific case studies that took place on a variety of campuses in the Central Texas region. The "Rally to Read" program was initiated at the Bill Logue Juvenile Justice Center for Boot Camp in McLennan County from 2000 to 2004. During that time, the individuals in each year of the program received over 120 hours of intervention that produced an average of 2.3 years increase in grade level reading comprehension abilities. These students were aged 13 to 17, and they were an average of 5 years delayed in reading. Since that time, the "Rally to Read" program has been replicated on over 18 different campuses in the central Texas area – including the McLennan County Challenge Academy. Employees of the Center for Learning and Development (CLD) have advocated for the "Rally to Read" program by referencing personal experiences with the program's success. These individuals also referenced specific incidents of student achievement in a variety of settings (T. Raley & M. Thauwald, personal communication, June 30, 2009). In addition, individuals at CLD frequently conduct surveys to help provide an in-depth look at the strengths and weaknesses of the "Rally to Read" program. As a whole, the recurring usage, continuous training, teacher feedback surveys, and mastery of the "Rally to Read" program have emphasized the reliability of this reading program over time (T. Raley & M. Thauwald, personal communication, June 30, 2009).

The Imagination Station program was designed by researchers and consultants in the field of educational research including Dr. Kevin Kalinowski, Dr. Reid Lyon, and Dr. Vicki Gibson. Additional researchers who have aided in the success of the Imagination Station program include Dr. Marilyn Adams, Dr. Douglas Carnine, Dr. David Francis, and Dr. Jan Hasbrouck. Imagination Station has conducted several validity and reliability studies utilizing their software in order to help address and meet the needs of at-risk, low-income, ELL, and minority students. The methodology of the I-station assessments was based on reading research and independent studies that were compared to the Texas Assessment of Knowledge and Skills. Concurrent validity information has been gathered on I-station progress indicators in Kindergarten through third grade classrooms. During the 2005-2006 school year, five school districts from across the country reported dramatic results after utilizing the I-station curriculum and progress monitoring programs. The students in these schools who were using I-station were at risk of reading failure in their current schools. As noted with the "Rally to Read" program, these students made significant strides in all five of the key research based reading components: phonological awareness, phonics, fluency/rate, vocabulary, and comprehension

The I-station program also provided research summaries that detailed each of the scientifically based research methods that built the foundation of its reading curriculum and progress monitoring tools. The I-station program has recently been effective as a Tier 3 intervention method as part of the RTI process. It has also shown to be significantly helpful as a pre-school early literacy curriculum. Several studies done with I-station assessments were done with Kindergarten and Pre-K classrooms. In addition,

the Imagination Station software has been utilized with English language learners for basic reading comprehension and fluency instruction. Each of the cases in which I-station was implemented produced successful data on behalf of the students. The data suggested that this program is an excellent tool for evaluating student progress in reading, fluency, and comprehension. The "Rally to Read" program contains similar components of the I-station software.

Bias of Researcher and Participants

The researcher was an administrative staff member on Campus A of this study. This allowed for an inside perspective on the data collection, surveys, and data analysis portion of the "Rally to Read" and I-station programs. As an administrator, the researcher has full access to all data. At the same time, this also presented a potential bias related to the data collection and/or success of the programs. Participants were also present with the researcher during the implementation of the initial phases of the "Rally to Read" and "Imagination Station" programs.

In addition, teachers and paraprofessionals were trained in "Rally to Read" by a representative from the Center for Learning and Development (CLD). Teacher administration of the computer programs may have been biased based on teacher-student relationships with particular "Rally to Read" members. Many of the students who received "Rally to Read" services had built rapport with the staff members while participating in other auxiliary campus programs. In this regard, teachers needed to be aware of how to manipulate the programs so as to best address the specific needs of the struggling learners. Due to previous relationships with the student participants, teachers may have been inclined to provide more intense, individualized instruction for the

students. Many of the adults had vested interests in the "Rally to Read" students, so they wanted them to do well. Consequently, teacher bias related to the programs components may have also played a role in the implementation process of the program interventions.

Data Collection Procedures

The quantitative data from this study was collected by downloading *comprehension fluency rates* and *timed reading with meaning rates* from the "Imagination Station" software program at the end of the 2008-2009 school year. This data was saved and stored from Campus A and Campus B throughout the given year. For the student assessments, all of the times and forms were compared to ensure similarity in student performance and equality of measurement. Tier 3 student groups on Campus B related to similar ability and fluency level performances as the "Rally to Read" students on Campus A.

The qualitative data from this study was collected through surveys. All of the surveys were completed by the adult participants on both campuses. All participation in this study was voluntary. Teachers were allowed to opt out of the survey process if they chose not to participate. Since all surveys were collected in a confidential, anonymous manner, there were no negative consequences for employment or job performance attached to the teacher's decisions. In addition, each participant was free to withdraw consent and/or participation in the survey at any time. Each adult had the right to participate or not to participate in the study.

All surveys were sent to adult participants via intra-district campus mail. Adults choosing to participate in the survey sent the consent form and survey back to the researcher, separately and anonymously, via campus mail. The surveys included the six

questions related to the teacher views and perceptions of the "Rally to Read" and "Imagination Station" programs, respectively. The surveys also allotted space for the teachers to write additional comments regarding their involvement with the programs.

Summary and Discussion

The RTI process was implemented in this district in order to help determine which students were the most struggling learners (Tier 3), as well as which programs would be the most helpful for these students. The staff members from Campus A and Campus B worked with administration, reading/math specialists, and intervention teams to help implement the RTI process in an effective manner. Teachers who worked the "Rally to Read" and "Imagination Station" programs often scheduled team meetings to discuss additional intervention strategies for struggling learners. On both of these campuses, these reading programs resulted from the implementation of the Response to Intervention (RTI) process. The adults and paraprofessionals in these two schools slowly became more comfortable and familiar with the RTI process due to the presence of these programs. Hence, the goal of this study was to determine the effectiveness of "Rally to Read" as an intervention method for Tier 3 students.

In summary, the "Rally to Read" program was implemented on Campus A of this study in order to help Tier 3 students grow in the areas of reading fluency and reading comprehension. The RTI process helped teachers to narrow down the number of students who needed this program when compared to other struggling readers. Third and fourth grade students in this study were preparing to take state mandated exams. Therefore, they received more concentrated instruction in classrooms related to reading and testing

skills. The "Rally to Read" program was an attempt to address the reading deficiencies of students in Tier 3 of this learning category.

The analysis of this data aimed to determine the effectiveness of "Rally to Read" by examining reading fluency and comprehension scores from the "Imagination Station" software program. The students who participated in these programs were chosen because of their placement in Tier 3 of the RTI process. This RTI process helped pinpoint struggling learners, but it also helped to foster collaborative efforts between grade level team members. Teachers were compelled to communicate their student and curriculum concerns more frequently due to the nature of the RTI process. Many staff members on Campus A and Campus B were able to discuss more practical ways to help each other since the implementation of the RTI model. "Rally to Read" would not have been implemented as quickly without the requirements set forth by the Texas Education Agency regarding Response to Intervention. For this study, "Rally to Read" and "Imagination Station" were these schools' attempts to help make the RTI model a successful venture for Tier 3 students.

CHAPTER FOUR

Analysis of Data

This research study utilized quantitative and qualitative data related to student performance to evaluate the effectiveness of the "Rally to Read" reading remediation program. Archived student scores from the Imagination Station progress monitoring system, as well as teacher responses from survey questions, served as the instruments for measuring student achievement and success within the "Rally to Read" program. The primary research question which served as the framework for this study was: *Did the "Rally to Read" program in Tier 3 increase the achievement of struggling readers when compared to Tier 3 students in another school who were not receiving "Rally to Read" services?* Several secondary questions were also addressed during this study:

Research Question #1. How did the achievement scores of students, as measured by I-station assessments, who were involved in the "Rally to Read" program, change over time?

Archived student achievement scores were collected from the Imagination Station progress monitoring program (I-station) over a period of one school year. Eleven students from Campus A and eleven students from Campus B were administered these I-station scores during each month of the school year for a total of eight months. All of the archived student I-station assessments were administered at approximately the same time (within one week) on each campus during each month of the school year. These student achievement scores included comprehension fluency rates as well as timed reading

assessment rates. Each of these domains was monitored on each school campus throughout one school year.

In order to evaluate student achievement from one month to the next, the average monthly performance of the students in each of these schools was analyzed and compared. These monthly averages are displayed in Tables 6 and 7. Each of these tables includes the average monthly I-station performance scores for comprehension fluency as well as timed reading with meaning. Average monthly progress can also be seen in Figures 3 and 4. Table 6 shows the average monthly achievement of students in the area of comprehension fluency for students on Campus A, whose students were receiving "Rally to Read" services, and Campus B, whose students were not receiving "Rally to Read" services.

Table 6

Average Achievement Scores by Month – Comprehension Fluency Rates

School	*Sept*	*Oct*	*Nov*	*Dec*	*Jan*	*Feb*	*Mar*	*April*
Campus A	12.63	20.82	28.45	38.73	49.09	57.27	69.55	78.36
Campus B	22.09	27	33.45	40.09	45.09	51.73	58.64	62.90

Note: 11 student scores collected on each campus

The student achievement scores for comprehension fluency, during the month of September, were higher for Tier 3 students on Campus B. Campus B students began the school year with higher comprehension fluency rates than the Tier 3 group on Campus A. However, by the end of the school year, student scores from Campus A were higher in the month of April than the comprehension fluency scores of students on Campus B. Campus A increased its overall comprehension fluency rates from 12.63 to 78.36 during

the school year – a difference of 65.73 points. Campus B also increased its overall comprehension fluency rates from 22.09 to 62.90 – a difference of 40.81 points. Although both campuses showed notable increases in student performance related to comprehension fluency, Campus A showed more visible and significant strides at the end of the school year. Campus A student participants were receiving "Rally to Read" services throughout the school year, while Campus B student participants were not receiving "Rally to Read" services. The progress of student averages for comprehension fluency, between Campus A and Campus B, can also be seen in Figure 3.

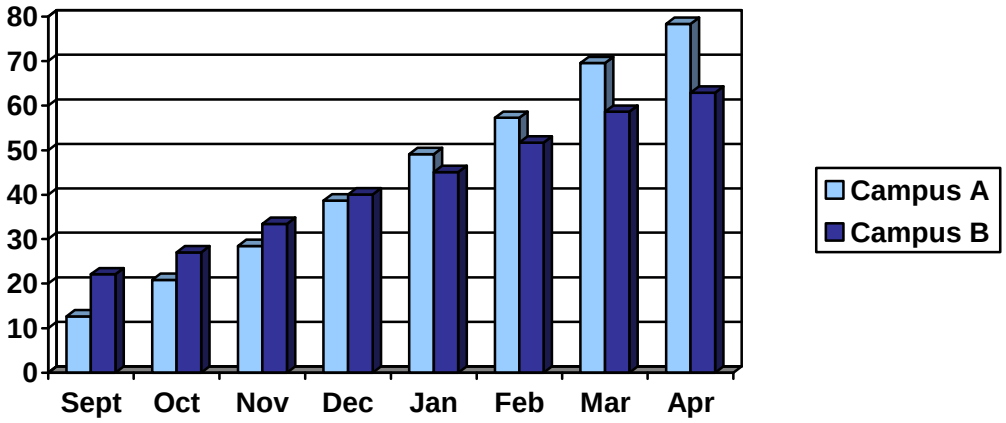

Figure 3. Average Rates for Comprehension Fluency (monthly), for Campus A and B

Table 7 shows the average monthly achievement of students in the area of timed reading with meaning for students on Campus A, whose students were receiving "Rally to Read" services, and Campus B, whose students were not receiving "Rally to Read" services. Tables 6 and 7 are both shown with monthly averages so as to display notable changes over time.

Table 7

Average Achievement Scores by Month – Timed Reading with Meaning

School	*Sept*	*Oct*	*Nov*	*Dec*	*Jan*	*Feb*	*Mar*	*April*
Campus A	11.18	20.18	32.70	44.09	58.63	72.73	86	107
Campus B	19.82	28.36	38.40	33.64	45.18	54.90	63.1	72.18

Note: 11 student scores collected on each campus

The student achievement scores for timed reading with meaning, during the month of September, were also higher for students on Campus B. Similar to the comprehension fluency scores, Campus B students began the school year with higher timed reading rates than the students on Campus A. Conversely, students' timed reading scores from Campus A were higher at the end of the year (in the month of April) than the timed reading scores of students on Campus B. Campus A increased its comprehensive timed reading rates from 11.18 to 107 during the school year – a comprehensive increase of 95.82 points. Campus B also increased its overall timed reading rates from 19.82 to 72.18 – an overall increase of 52.36 points. While both campuses displayed significant increases in student performance with regards to timed reading with meaning, Campus A showed more noteworthy gains at the end of the school year. The progress of student averages for timed reading with meaning, between Campus A and Campus B, can also be seen in Figure 4.

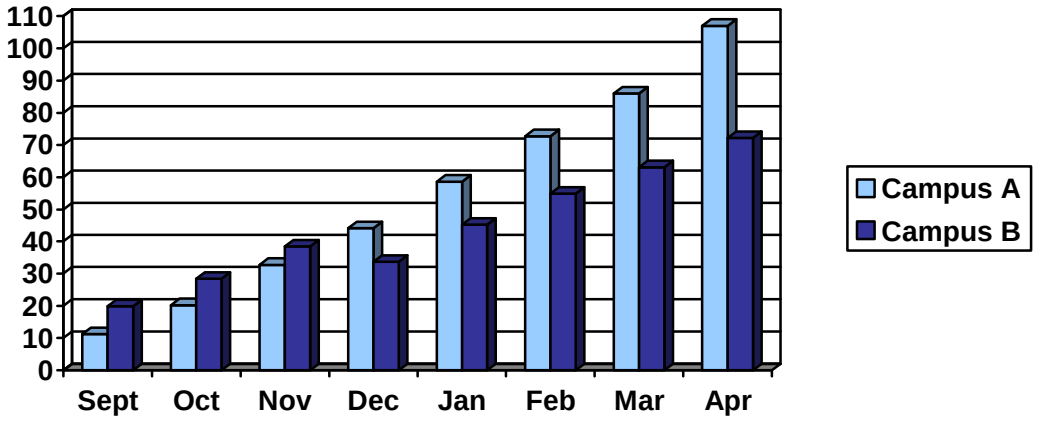

Figure 4. Average Rates for Timed Reading, by Month, for Campus A and Campus B

In order to check for statistical significance for the I-station comprehension fluency rates, a simple analysis of variance (ANOVA) single factor test was applied to the comprehension fluency achievement scores between Campus A and Campus B. This single factor test was applied to the I-station comprehension fluency rates from the Beginning of Year scores (BOY) in September and from the End of Year scores (EOY) in April. Since both months only included 11 student scores from each campus, the value of *F* (*F* Factor) required for statistical significance for September and April was 4.35125. When ANOVA was applied to the data, the F factor for the month of September was 12.55, and the F factor for the month of April was 7.64. Since both of these numbers were greater than 4.35125, the test indicated that the differences between the achievement scores for both months were statistically significant at the .05 level. The ANOVA BOY test (September) for comprehension fluency is shown in Table 8. The ANOVA EOY test (April) for comprehension fluency is shown in Table 9.

Table 8

Test of Significant Difference for Comprehension Fluency at BOY (September) - ANOVA

Groups	Count	Sum	Average	Variance		
Campus A - Sept	11	139	12.63636	49.65455		
Campus B - Sept	11	243	22.09091	28.69091		
Source of Variation	*SS*	*df*	*MS*	*F*	*p-value*	*F crit*
Between Groups	491.6364	1	491.6364	12.55048	0.002043	4.35125
Within Groups	783.4545	20	39.17273			
Total	1275.091	21				

Note: Alpha level = .05.

Table 9

Test of Significant Difference for Comprehension Fluency at EOY (April) - ANOVA

Groups	Count	Sum	Average	Variance		
Campus A - April	11	862	78.36364	291.6545		
Campus B - April	11	692	62.90909	52.09091		
Source of Variation	*SS*	*df*	*MS*	*F*	*p-value*	*F crit*
Between Groups	1313.636	1	1313.636	7.643076	0.011955	4.35125
Within Groups	3437.455	20	171.8727			
Total	4751.091	21				

Note: Alpha level = .05.

The resulting data indicated that the comprehension fluency scores from Campus A in September and Campus B in September were significantly different. The data also indicated that the comprehension fluency scores from Campus A in April and Campus B

in April were significantly different. Both sets of scores showed the variances and increases, over time, between the students' progress and achievement from each campus.

In order to check for statistical significance for the I-station timed reading rates, a simple analysis of variance (ANOVA) single factor test was also applied to the timed reading with meaning scores between Campus A and Campus B. Similar to comprehension fluency, this single factor test was applied to the I-station timed reading rates from the Beginning of Year scores (BOY) in September and from the End of Year scores (EOY) in April. Once again, both months only included 11 student scores from the student groups on each campus.

Table 10

Test of Significant Difference for Timed Reading with Meaning at BOY (September) - ANOVA

Groups	Count	Sum	Average	Variance		
Campus A - Sept	11	123	11.18182	19.16364		
Campus B - Sept	11	218	19.81818	26.16364		
Source of Variation	*SS*	*df*	*MS*	*F*	*p-value*	*F crit*
Between Groups	410.2273	1	410.2273	18.10068	0.000388	4.35125
Within Groups	453.2727	20	22.66364			
Total	863.5	21				

Note: Alpha level = .05.

The value of *F* (*F* Factor) required for statistical significance for September and April was 4.35125. When ANOVA was applied to the timed reading with meaning rates, the F factor for the month of September was 18.10, and the F factor for the month of April was 32.80. Since both of these numbers were greater than 4.35125, the test

indicated that the differences between the timed reading scores for both months were statistically significant at the .05 level. The ANOVA BOY test (Sept) for timed reading with meaning is shown in Table 10. The ANOVA EOY test (April) for timed reading with meaning is shown in Table 11.

This resulting data indicated that the timed reading scores from Campus A in September and Campus B in September were significantly different. The data also indicated that the comprehension fluency scores from Campus A in April and Campus B in April were significantly different.

Table 11

Test of Significant Difference for Timed Reading with Meaning at EOY (April) - ANOVA

Groups	Count	Sum	Average	Variance		
Campus A - April	11	1177	107	350.6		
Campus B - April	11	794	72.18182	55.96364		
Source of Variation	*SS*	*df*	*MS*	*F*	*p-value*	*F crit*
Between Groups	6667.682	1	6667.682	32.80019	1.32E-05	4.35125
Within Groups	4065.636	20	203.2818			
Total	10733.32	21				

Note: Alpha level = .05

In addition, a *t*-test was applied to the comprehension fluency scores for each month that the campuses administered the I-station assessments. Each month's result demonstrated that the significant differences in the scores on each campus gradually increased during the year. The *t*-test results for comprehension fluency are shown in Table 12. The value of *t* for each month is also shown in Table 13.

Table 12

*Test of Significant Difference for Comprehension Fluency (by Month) – t test**

September		
	A - Sept	*B - Sept*
Mean	12.63636	22.09091
Variance	49.65455	28.69091
Observations	11	11
Pearson Correlation	0.856721	
df	10	
t Stat	-8.48026	
P(T<=t) two-tail	7.04E-06	
t Critical two-tail	2.228139	

October		
	A - Oct	*B - Oct*
Mean	20.81818	27
Variance	76.16364	54.8
Observations	11	11
Pearson Correlation	0.798703	
df	10	
t Stat	-3.89112	
P(T<=t) two-tail	0.003004	
t Critical two-tail	2.228139	

November		
	A - Nov	*B - Nov*
Mean	28.4545	33.4545
Variance	121.473	38.2727
Observations	11	11
Pearson Correlation	0.8385	
df	10	
t Stat	-2.4612	
P(T<=t) two-tail	0.03361	
t Critical two-tail	2.228139	

December		
	A - Dec	*B - Dec*
Mean	38.7273	40.0909
Variance	180.418	35.2909
Observations	11	11
Pearson Correlation	0.86507	
df	10	
t Stat	-0.5132	
P(T<=t) two-tail	0.61894	
t Critical two-tail	2.228139	

January		
	A - Jan	*B - Jan*
Mean	49.0909	45.0909
Variance	206.291	36.8909
Observations	11	11
Pearson Correlation	0.79085	
df	10	
t Stat	1.29345	
P(T<=t) two-tail	0.22494	
t Critical two-tail	2.22814	

February		
	A - Feb	*B - Feb*
Mean	57.2727	51.7273
Variance	220.418	42.6182
Observations	11	11
Pearson Correlation	0.78085	
df	10	
t Stat	1.74044	
P(T<=t) two-tail	0.1124	
t Critical two-tail	2.22814	

March		
	A - Mar	*B - Mar*
Mean	69.5455	58.6364
Variance	222.873	47.4545
Observations	11	11
Pearson Correlation	0.73237	
df	10	
t Stat	3.30715	
P(T<=t) two-tail	0.00792	
t Critical two-tail	2.22814	

April		
	A - April	*B - April*
Mean	78.3636	62.9091
Variance	291.655	52.0909
Observations	11	11
Pearson Correlation	0.76779	
df	10	
t Stat	4.12408	
P(T<=t) two-tail	0.00206	
t Critical two-tail	2.22814	

**Note*: Letter A, by month, represents Campus A; Letter B, by month, represents Campus B

Table 13 displays the significant changes in these comprehension fluency scores over time. Each of the campuses showed significant progress in comprehension fluency, yet the results yielded a more consistently increasing average for the student group on Campus A. As a result, the value of *t* (resulting from the *t* test) increasingly changed, in favor of Campus A, by the end of the school year. These results showed statistical significance at the .05 level.

Table 13

Value of t (resulting from t-test) for Comprehension Fluency (by Month)

Comprehension Fluency	*Sept*	*Oct*	*Nov*	*Dec*	*Jan*	*Feb*	*Mar*	*April*
Value of *t*	-8.48	-3.89	-2.46	-0.51	1.29	1.74	3.31	4.12

Note: Table value of *t* is 2.23, Alpha level = .05

A *t*-test was also applied to the students' scores for timed reading with meaning. This *t*-test was applied to each month's I-station timed reading rates for each campus. Similar to the comprehension fluency results, each month's result yielded that the significant differences in the scores on each campus progressed throughout the school year. While both campuses showed adequate progress, the overall increase of scores for Campus A was more significant. The *t*-test results for timed reading with meaning are shown in Table 14. The value of *t* for each month of the timed reading application is shown in Table 15.

Table 14

*Test of Significant Difference for Timed Reading with Meaning (by Month) – t test**

September		
	A - Sept	*B - Sept*
Mean	11.18182	19.81818
Variance	19.16364	26.16364
Observations	11	11
Pearson Correlation	0.975197	
df	10	
t Stat	-22.26834	
P(T<=t) two-tail	7.49E-10	
t Critical two-tail	2.228139	

October		
	A - Oct	*B - Oct*
Mean	20.18182	28.36364
Variance	43.96364	35.25455
Observations	11	11
Pearson Correlation	0.821135	
df	10	
t Stat	-7.110682	
P(T<=t) two-tail	3.25E-05	
t Critical two-tail	2.228139	

November		
	A - Nov	*B - Nov*
Mean	32.72727	38.36364
Variance	72.01818	31.05455
Observations	11	11
Pearson Correlation	0.000192	
df	10	
t Stat	-1.847458	
P(T<=t) two-tail	0.095371	
t Critical two-tail	2.228139	

December		
	A - Dec	*B - Dec*
Mean	44.09091	33.63636
Variance	175.4909	60.65455
Observations	11	11
Pearson Correlation	-0.357305	
df	10	
t Stat	1.969744	
P(T<=t) two-tail	0.077177	
t Critical two-tail	2.228139	

January		
	A - Jan	*B - Jan*
Mean	58.63636	45.18182
Variance	146.8545	51.36364
Observations	11	11
Pearson Correlation	0.127492	
df	10	
t Stat	3.362942	
P(T<=t) two-tail	0.007207	
t Critical two-tail	2.228139	

February		
	A - Feb	*B - Feb*
Mean	72.72727	54.90909
Variance	290.0182	29.29091
Observations	11	11
Pearson Correlation	0.448885	
df	10	
t Stat	3.842251	
P(T<=t) two-tail	0.003253	
t Critical two-tail	2.228139	

March		
	A - Mar	*B - Mar*
Mean	86	63.09091
Variance	263.4	50.09091
Observations	11	11
Pearson Correlation	0.252471	
df	10	
t Stat	4.753533	
P(T<=t) two-tail	0.000776	
t Critical two-tail	2.228139	

April		
	A - April	*B - April*
Mean	107	72.18182
Variance	350.6	55.96364
Observations	11	11
Pearson Correlation	0.696058	
df	10	
t Stat	7.939295	
P(T<=t) two-tail	1.26E-05	
t Critical two-tail	2.228139	

**Note*: Letter A, by month, represents Campus A; Letter B, by month, represents Campus B

Table 15 displays the significant changes in the timed reading with meaning scores over time. Similar to the comprehension fluency scores, the value of *t* (resulting from the *t* test) increasingly changed, in favor of Campus A, by the end of the school year. These results showed that the changes were statistically significant at the .05 level.

Table 15

Value of t (resulting from t-test) for Timed Reading with Meaning (by Month)

Timed Reading	*Sept*	*Oct*	*Nov*	*Dec*	*Jan*	*Feb*	*Mar*	*April*
Value of *t*	-22.27	-7.11	-1.84	1.97	3.36	3.84	4.75	7.94

Note: Table value of *t* is 2.23, Alpha level = .05

Research Question #2. Did the amount of time spent on the I-station curriculum impact the achievement of students in the "Rally to Read" program when compared to non-participants?

The Tier 3 students in this study, on Campus A and Campus B, both utilized the Imagination Station progress monitoring program. The Tier 3 students on Campus A were primarily receiving reading remediation services through the "Rally to Read" program. However, they were also utilizing parts of the Imagination Station curriculum components on a small scale. The Tier 3 students on Campus B were utilizing the Imagination Station curriculum component as the sole means of Tier 3 intervention. Consequently, the Tier 3 students on Campus B spent more time on the I-station curriculum components than the students on Campus A. The Campus B students had scheduled, frequent opportunities to work and learn on the computerized elements of the reading curriculum within the I-station program. For Tier 3 students on Campus A, the I-station curriculum was simply an additional support mechanism for the "Rally to Read"

program. The time spent on I-station by Tier 3 students on Campus A was minimal. The average amount of time spent on I-station for each campus, by month, is shown in Table 16 and Figure 5.

Table 16

Average Time Spent on I-Station Curriculum, by Month, for Campus A and B (in minutes)

School	*Sept*	*Oct*	*Nov*	*Dec*	*Jan*	*Feb*	*Mar*	*April*
Campus A	69	54	49	34	49	45	45	43
Campus B	174	167	169	127	166	163	158	161

Note: 11 student participant usage times collected on each campus

The Tier 3 students on Campus B spent an average of 112 minutes more per month on I-station curriculum components than the Tier 3 students on Campus A. This allotted an average of 897 more minutes per year for the Campus B students. As a whole, the Tier 3 students on Campus B spent more than three times as much time on the I-station curriculum component than the Tier 3 students on Campus A. Conversely, the Tier 3 students on Campus A showed greater strides on I-station assessments, as demonstrated in response to the first question of this study, despite their minimal time spent on the I-station curriculum components. As noted earlier, this result was largely influenced by the fact that the Tier 3 students on Campus B were utilizing the Imagination Station curriculum component as the sole means of Tier 3 intervention throughout the school year.

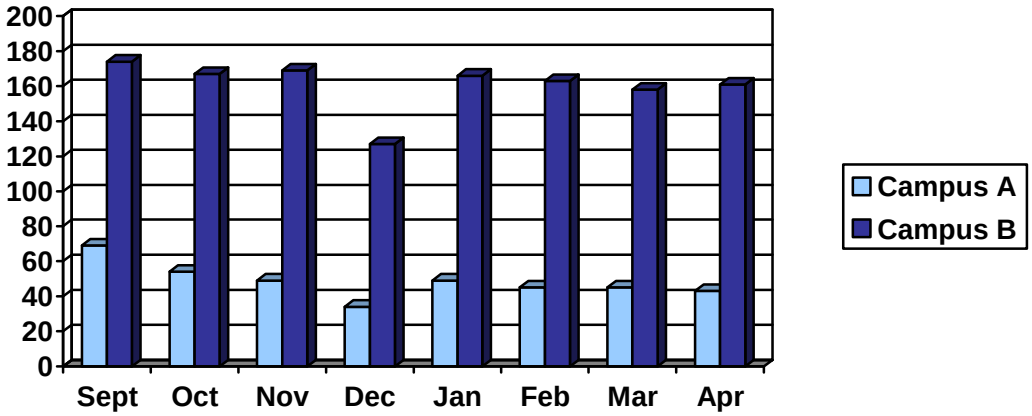

Figure 5. Average Minutes Spent on I-Station Curriculum for Campus A and Campus B

In order to check for statistical significance between the I-station usage times, a simple analysis of variance (ANOVA) single factor test was applied to the usage time monthly averages between Campus A and Campus B. The value of *F* (*F* Factor) required for statistical significance was 4.600111. When ANOVA was applied to the usage time monthly averages, the F factor resulting from the test was 323.266. Since this number was greater than 4.600111, the test indicated that the differences between I-station usage times for each campus were statistically significant at the .05 level. The ANOVA test for significant difference in usage time is shown in Table 17.

A *t*-test was also applied to the monthly usage times for each campus. The *t*-table value for significant difference was 2.364623. When the *t*-test was applied to the monthly usage times for I-station, the value of *t* was -35.05634. As a result, the test indicated that the differences between the two campuses usage times, by month, were statistically and significantly different at the .05 level. The *t*-test for significant difference of campus I-station usage times is shown in Table 18.

Table 17

Test of Significant Difference for Monthly I-Station Usage Times (in minutes) - ANOVA

Groups	Count	Sum	Average	Variance		
Campus A	8	388	48.5	102.2857		
Campus B	8	1285	160.625	208.8393		
Source of Variation	*SS*	*df*	*MS*	*F*	*p-value*	*F crit*
Between Groups	50288.06	1	50288.06	323.266	4.53E-11	4.600111
Within Groups	2177.875	14	155.5625			
Total	52465.94	15				

Note: Alpha level = .05

Table 18

Test of Significant Difference for Monthly I-Station Usage Times (in minutes) – t-test

Monthly Usage Time Averages		
	Campus A	*Campus B*
Mean	48.5	160.625
Variance	102.2857	208.8393
Observations	8	8
Pearson Correlation	0.784392	
df	7	
t Stat	-35.05634	
P(T<=t) two-tail	3.99E-09	
t Critical two-tail	2.364623	

Research Question #3. Did student behavior change, as measured by office referrals, in response to participation in the "Rally to Read" program?

Disciplinary referrals for the students in the "Rally to Read" program on Campus A were collected, compiled, and reviewed at the end of the school year. Disciplinary incidents included the activities and behavior of "Rally to Read" students in the regular education classroom as well as their pull-out time during the "Rally to Read" Tier 3

intervention rotation setting. Disciplinary referrals for the Tier 3 students on Campus B were also collected and reviewed at the end of the school year. The number of disciplinary referrals for each campus was added up for each month of the year, and the totals were divided by the number of student participants in the program for that month. This was done on Campus A and Campus B. These numerical results are shown Table 19, and the averages are compared in Figure 6.

Table 19

Disciplinary Referral Average Amounts for Campus A and Campus B (by month)

School	*Sept*	*Oct*	*Nov*	*Dec*	*Jan*	*Feb*	*Mar*	*April*
Campus A	.36	.72	.55	.63	.27	.18	.36	.09
Campus B	.27	.36	.36	.45	.27	.36	.36	.55

Note: 11 students' referral data was collected on each campus

The average number of discipline referrals for the entire school year, for Campus A and Campus B, were similar at the end of the year. Both campuses began the school year in September with approximately with same number of referrals. Campus A had an average of 0.36 referrals in September, while Campus B had an average of 0.27 referrals in September. Campus A averaged 0.40 referrals for the year, and Campus B averaged 0.37 referrals for the school year. However, it is notable that at the end of the year in April, a time when disciplinary referrals tend to increase, the average number of referrals for Tier 3 participants on Campus A was 0.09, while the average number of referrals for Tier 3 participants on Campus B was 0.55. Although there are no specific patterns in the disciplinary data, the overall number of referrals for Tier 3 students on Campus A was

smaller in the second semester than it was during the first semester of the given school year of the study.

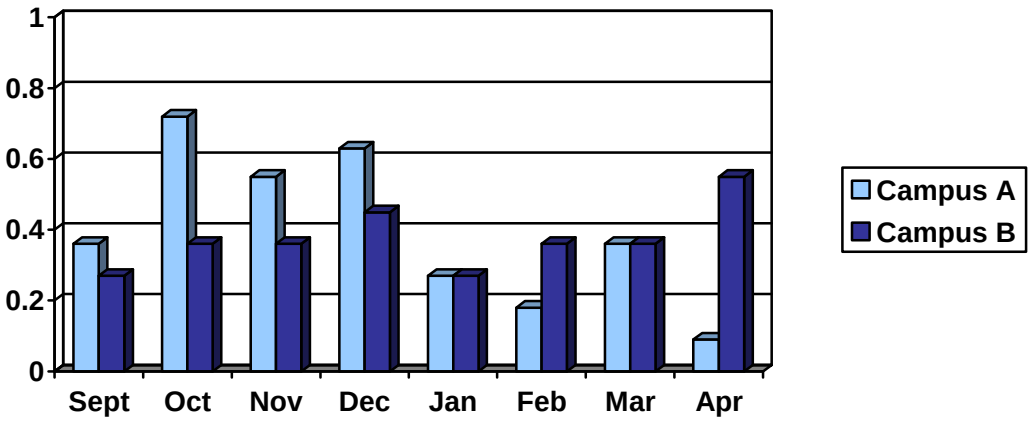

Figure 6. Average Disciplinary Referrals, by Month, for Campus A and Campus B

In order to check for statistical significance of the disciplinary referrals for Campus A and Campus B, a simple analysis of variance (ANOVA) single factor test was applied to the monthly disciplinary referral averages between the campuses. The value of *F* (*F* Factor) required for statistical significance was 4.600111. When ANOVA was applied to the monthly disciplinary referral averages, the F factor resulting from the test was 0.070637. Since this number was less than 4.600111, the test indicated that the differences between the monthly disciplinary referral averages for each campus were statistically insignificant at the .05 level. The ANOVA test for significant difference between monthly disciplinary referral averages is shown in Table 20.

In addition, a *t*-test was applied to the monthly disciplinary referral averages for each campus. The *t*-table value for significant difference was 2.364623. When the *t*-test was applied to the monthly disciplinary referral averages for both campuses, the value of *t* was 0.252079. As a result, the *t*-test indicated that the differences between the monthly

disciplinary referral averages were statistically insignificant at the .05 level. This *t*-test of disciplinary referral averages is shown in Table 21.

Table 20

Test of Significant Difference for Monthly Disciplinary Referral Averages - ANOVA

Groups	Count	Sum	Average	Variance		
Campus A	8	3.16	0.39	0.048886		
Campus B	8	2.98	0.3725	0.00845		
Source of Variation	*SS*	*df*	*MS*	*F*	*p-value*	*F crit*
Between Groups	0.002025	1	0.002025	0.070637	0.794286	4.600111
Within Groups	0.40135	14	0.028668			
Total	0.403375	15				

Note: Alpha level = .05

Table 21

Test of Significant Difference for Monthly Disciplinary Referral Averages – t-test

Average Monthly Disciplinary Referrals		
	Campus A	*Campus B*
Mean	0.395	0.3725
Variance	0.048886	0.00845
Observations	8	8
Pearson Correlation	-0.157446	
df	7	
t Stat	0.252079	
P(T<=t) two-tail	0.808221	
t Critical two-tail	2.364623	

While the quantitative tests of the disciplinary referral data did not yield statistical significance, the comparison between the averages of first semester and second semester referrals for Campus A, 0.57 and 0.23 respectively, was notably different. In addition,

the average referrals for the month of April for Campus A and Campus B were notably different, yielding 0.09 and 0.55 referrals respectively. This lower rate of referrals in April, a time when disciplinary referrals are typically higher, suggested that the Tier 3 students on Campus A may have displayed less disruptive behavior towards the end of the school year. In addition, the qualitative survey responses regarding student behavior were the strongest indicators supporting the positive impact of "Rally to Read" on reducing the amount of monthly disciplinary referrals.

Research Question #4. What were the perceptions of teachers and staff members who supervised the "Rally to Read" program?

The perceptions of teachers and staff members on Campus A who worked with the "Rally to Read" program, as well as the perceptions of teachers and staff members on Campus B who worked solely with the Imagination Station program, were evaluated and interpreted based on individual surveys of the adult participants in each of the programs. The responses of the adult participants were placed into five distinct categories for review: adult program training (for I-Station and "Rally to Read"), program effects on student behavior, adult experiences with program curriculum, adult relationships with students during program use, and the overall program effectiveness of each intervention method. In addition, the teachers and staff members from both campuses were given the opportunity to offer additional written comments related to their experiences with the students and programs that were not specifically addressed within the survey questions. Several of the "Rally to Read" staff members commented on the I-station usage time for "Rally to Read" students with regard to the I-Station curriculum and assessment program.

Participants' responses to each of the survey questions, placed into five categories, are shown in Table 22.

Table 22

Survey Response Results from "Rally to Read" and Imagination Station Adult Participants

Adult Participants by Campus	Was the *program training* and preparation sufficient?	Did the program have an impact on *student behavior*?	Were the *experiences* with the program *curriculum* positive?	Were your *relationships with students* positive during the program?	Overall, do you feel that the *program was effective*?
Adult #1-A Campus A	Yes	Yes	Yes	Yes	Yes
Adult #2-A Campus A	Yes	Yes	Yes	Yes	Yes
Adult #3-A Campus A	No	Yes	Yes	Yes	Yes
Adult #4-A Campus A	Yes	Yes	Yes	Yes	Yes
Adult #1-B Campus B	No	No	Yes	Yes	Yes
Adult #2-B Campus B	No	No	Yes	Yes	No
Adult #3-B Campus B	No	No	Yes	Yes	Yes
Adult #4-B Campus B	Yes	No	Yes	Yes	No

Note: Adults on Campus A worked primarily with "Rally to Read"
Adults on Campus B worked solely with Imagination Station

Program Training for Adult Participants

The adult responses from both campuses were mixed with regard to the program training and preparation for the respective programs. Three of the four adult participants on Campus A felt that the "Rally to Read" training and facilitation for teaching was sufficient for student success. The reading specialist, Adult Participant #1-A, wrote, "I enjoyed the training, but it was a lot to take in all at once. My background prepared me

for some of the information about *Lexia* and *Read Naturally*. It was a good training and presentation" (Survey Response, June 4, 2009). Adult Participant #3-A did not feel that the "Rally to Read" training was sufficient for her portion of the program. She explained in her survey response, "I work with the students at the LIPS station. Overall, I have enjoyed it. But, LIPS can be frustrating at first because it is so different from anything you have done before. I wish that the training had prepared me better for the LIPS component" (Survey Response, June 4, 2009). Participant #3-A reiterated the positive impact of the program, but she emphasized to the researcher that the LIPS portion of the training needed improvement.

Only one of the four adult participants on Campus B felt that the training for Imagination Station was sufficient for student success. The program supervisor, Adult Participant #1-B, noted, "I was trained on I-Station, but the information has changed on the reports and there has been no communication about what the information is and how to use the new scores" (Survey Response, June 24, 2009). Adult Participant #1-B felt that despite the lack of communication from I-Station trainers, the progress monitoring piece of I-Station was remarkably effective for gauging student progress. Adult Participant #3-B also expressed disappointment with the I-station training. She stated in her survey response, "I have a bachelor's degree, but I was only trained during one short morning session. I just don't think that was enough" (Survey Response, June 24, 2009). While Participant #1-B and Participant #3-B both agreed that the I-Station training needed improvement, they were both satisfied with the overall curriculum and performance of the program on a day-to-day basis. Also, they both advocated for the progress monitoring component of Imagination Station.

Program Impact on Student Behavior

The adult participants in the "Rally to Read" program responded unanimously with regard to the positive impact of the "Rally to Read" program on student behavior. Most notably, all four of the adult participants from Campus A agreed that the "Rally to Read" program had positively influenced and changed many of the students' behaviors over the course of the school year. In their surveys, each of the adult participants from Campus A expressed a desire to continue working with the "Rally to Read" program in subsequent school years. Also, they all expressed their satisfaction with the way the program was able to help students improve his or her reading comprehension, as well as change the students' behaviors at school.

In general, the adult participants on Campus A felt that the "Rally to Read" program affected student behavior as well as each student's educational progress throughout the school year. Each of the adult participants was asked the following survey question related to student behavior in the "Rally to Read" program: "Do you feel that 'Rally to Read' has impacted student behavior as well as academic performance? Why or why not?" In response to this question, the adult participants unanimously agreed that the program was behaviorally beneficial for the students.

Adult Participant #1-A wrote, "We are able to develop close relationships with the students because of the small group settings in our room. The students are successful in the program. As a result, students are usually better behaved because they are successful. Being able to read has boosted their self-esteem" (Survey Response, June 4, 2009). Adult Participant #2-A stated in her survey response, "The 'Rally to Read' program has positively impacted behavior in most of our students. I see many who gain

valuable confidence as they learn to read better and comprehend. They also bond with the other students in their group. I have been impressed with the program's affirmation of students, and the teachers worked really hard, too" (Survey Response, June 4, 2009). Adult Participant #3-A wrote, "Yes. The one-on-one time helps them to focus better, and as they achieve success, their attitudes toward school and learning improve. It becomes fun for them to work toward and achieve goals" (Survey Response, June 4, 2009). Adult Participant #4-A expressed in her survey response, "The students I have worked with have really changed this year. They enjoy reading, and that gives them confidence to succeed in other things. I am really glad that I have been able to be a part of 'Rally to Read.' The students have really benefited from it" (Survey Response, June 4, 2009).

As a whole, these written responses by the adult participants in the "Rally to Read" program affirmed the positive impact of "Rally to Read" on student behavior. Each of the adults supported the notion that "Rally to Read," while strongly impacting academic performance, appeared to have helped reduce the average number of monthly disciplinary referrals to the principal's office.

Responses to survey questions related to other academic areas of "Rally to Read" also yielded praises for the usefulness of "Rally to Read" with students who display severe misbehaviors. The adult participants offered supplemental comments about positive student behavior during most questions related to the "Rally to Read" program. The program supervisor, Adult Participant #1-A, explained the important connection between student achievement and student behavior. As noted by Elliot (2008), Fuchs & Fuchs (2006), and Gresham, Lane, O'Shaughnessy, & Beebe-Frankenberger (2003), student behavior is strongly linked to academic performance. The adult participants

agreed that "Rally to Read" was able to help inspire confidence in the student's individual abilities to overcome his or her specific area of reading weakness. While the students in the "Rally to Read" program worked to become proficient readers, the adult participants felt that they were also able to build positive relationships with the students. They agreed that this allowed them to encourage and affirm the "Rally to Read" students on a more personal level. In addition, the adult participants repeatedly advocated for the program's ability to positively affect and influence overall student performance in reading.

Conversely, none of the adult participants from Campus B felt that the Imagination Station curriculum program impacted student behavior. Adult Participant #4-B responded, "No, I-Station has not impacted the behavior of students that I am working with. They have trouble focusing and I-Station does not help with that. You have to constantly monitor them to make sure they are watching their computer screen and doing what they are supposed to" (Survey Response, June 24, 2009). In response to the same question regarding student behavior, Adult Participant #1-B stated, "No, I do not see that student behavior has been impacted by I-Station. For some students it is simply a tool that helps them make progress with reading skills. Some students enjoy the program while others do not. It is not a perfect match for anyone" (Survey Response, June 24, 2009). As a group, the adult participants from Campus B did not feel that the I-Station program had any direct impact on student behavior.

Experiences with Program Curriculum

The adults from both campuses responded positively to the survey questions related to experiences with program curriculum. All four of the adult participants on

Campus A agreed that their experiences with the "Rally to Read" program and curriculum were positive and encouraging. Adult Participant #2-A stated, "My experience with 'Rally to Read' has been very positive. I work with students in *Read Naturally*, *Study Hall 101*, and *Lexia*. All of these programs build their reading skills, comprehension, and fluency" (Survey Response, June 4, 2009). In addition, Adult Participant #3-A, who had previously expressed a need for improvement in the training for the LIPS component of "Rally to Read," stated, "The LIPS program is difficult for the students at first, but after they practice awhile, they love trying to meet the goal of 2 minutes or less. It is definitely a positive experience" (Survey Response, June 4, 2009).

Similarly, all four of the adult participants on Campus B who worked with the Imagination Station program agreed that the curriculum component of I-Station was practical and beneficial for struggling students. They all expressed the benefits of the I-station curriculum and progress monitoring component, but several of them still felt that the program could use some improvement. Adult Participant #2-B noted in her survey response, "I have used I-Station for 2 years, and I do like it for struggling students. However, the children do tire from the program if used too frequently, so we sometimes use other materials to support learning" (Survey Response, June 24, 2009). Adult Participant #4-B agreed. She stated, "I have enjoyed it and I think it is beneficial, but it needs some more tweaking" (Survey Response, June 24, 2009). Overall, the Campus B adult participants were pleased with the Imagination Station curriculum and its ability to help struggling readers in the small group setting. They appeared to have enjoyed working with the curriculum, and they seemed grateful for the opportunity to learn about the program's reading components.

Relationships with Students during Program

Similar to the curriculum program responses, adult participants from Campus A and Campus B both felt that their relationships with students were positive during the respective programs. All four of the adult participants on Campus A agreed that they maintained positive relationships with students during the "Rally to Read" program. Campus A adult participants commented repeatedly about the importance of relationship and student connections during the implementation of the "Rally to Read" program. Adult Participant #2-A wrote that, "We develop very close relationships. I see students five days a week and work very closely with them. I try to keep up with their progress in all areas" (Survey Response, June 4, 2009). Adult Participant #3-A supported this statement, "Because we work one-on-one with the students for 45 minutes each day, we get to know them very well and have formed good personal relationships with them" (Survey Response, June 4, 2009).

Likewise, all four of the adult participants in the Imagination Station program on Campus B stated that they had positive relationships with students during the implementation of the I-Station curriculum. Adult Participant #4-B stated, "I work with students on a pull-out basis that need additional assistance with reading. It has been fun getting to know them. They have also gotten to know me, too" (Survey Response, June 24, 2009). Adult Participant #1-B also reiterated her positive experiences with the students, "I do not see as many students as the other teachers, but the ones that I see, we have worked really well together. I enjoy seeing them make strides" (Survey Response, June 24, 2009). In general, participants on Campus A and Campus B agreed that positive relationships with students were critical to the success of their respective programs.

Overall Program Effectiveness

The adult responses from Campus A were unanimous in their support of the overall effectiveness of the "Rally to Read" program. All four of the adult participants explained their reasoning for the program's success with their students. Adult Participant #1-A recalled, "Yes. This program has been very effective. We saw improvement in all of our students. Three of our eleven students received 'Commended' performance on their TAKS reading tests" (Survey Response, June 4, 2009). Adult Participant #3-A concurred with this statement, "Yes, I can tell you that 'Rally to Read' has been an effective remediation program. All eleven of our students passed the TAKS test. In fact, three of them were 'Commended' in their performance" (Survey Response, June 4, 2009). Adult Participant #4-A stated, "Each one of our 'Rally to Read' students have improved in some form or fashion. We have even served students who had been served in special education" (Survey Response, June 4, 2009).

Conversely, only two of the four adult participants on Campus B felt that the Imagination Station program was an effective program as a whole. Each of the Campus B adult participants discussed the strengths and weaknesses of the I-Station program components. Although the I-Station curriculum and progress monitoring pieces gained the strongest support from Campus B interviewees, two out of the four adult participants still felt that there was something missing from the intervention methods. Adult Participant #2-B stated, "I like the I-Station curriculum, but the children still do not read aloud to the adults. It bothers me to not know if they are pronouncing words correctly. They read passages from the computer, but they are not heard or evaluated based on whether or not they read it correctly" (Survey Response, June 24, 2009). At the same

time, Adult Participant #1-B felt that the I-Station program was an effective program. She stated, "The I-Station progress monitoring piece is very helpful for us. We can identify areas of weakness quickly, and that allows us to assign necessary intervention groups for the Tier 3 students. Overall, I have been pleased with it" (Survey Response, June 24, 2009). On the whole, the Campus B adult participants maintained a positive perception of the I-Station program. However, they felt it was important to share their concerns regarding the program's weaknesses and the specific components that needed improvement.

Additional Responses Related to I-Station Usage Time

With regard to time spent on the I-Station program, some of the teachers in "Rally to Read" noted in their survey responses that they felt the small amount of time spent on the I-station curriculum was beneficial for the "Rally to Read" students. One of the experienced teachers, Participant #3-A, stated, "I feel the Imagination Station curriculum has been a beneficial supplement for our 'Rally to Read' students. The charts and graphs help identify progress and report needs assessments for our kids. This helps build the student's confidence in his or her success within the 'Rally to Read' program. Also, the I-station program is easy for the students to use" (Survey Response, June 4, 2009). This experienced teacher worked with the "Rally to Read" program throughout the entire school year on Campus A.

Another "Rally to Read" staff member commented on the benefits of the Imagination Station program for the "Rally to Read" students. The reading specialist for Campus A, Participant #1-A, noted that, "The usage time for our students has been minimal. Most of the students' time was spent with 'Rally to Read.' However, the I-

station time has been quick and easy for these students. The lessons are helpful to use for instruction" (Survey Response, June 4, 2009). The reading specialist worked closely with the students, teachers, and adult participants within the "Rally to Read" program throughout the school year.

One "Rally to Read" adult participant was unsure about the I-station usage time and its impact on the success of the "Rally to Read" students' performances on the I-station assessments. This adult, Participant #4-A, had previously worked with students who had reading deficiencies. She stated, "I think that the 'Rally to Read' program has really been a positive experience for our students. These kids have made tremendous strides in reading comprehension and reading fluency, and they are encouraged by it. I do not know if the I-station curriculum time has played a part in their success. (Survey Response, June 4, 2009).

Research Question #5. Did teacher backgrounds and training affect the implementation of the "Rally to Read" program or the achievement of "Rally to Read" students?

The adult participants on Campus A and Campus B were asked to discuss their educational background, their training in their respective programs, and any formal training they may have received in the area of reading remediation on their surveys. Each of the adult participants on Campus A discussed the achievement of their Tier 3 students in connection with the individual teachers' backgrounds and program preparation. Campus B teachers also responded similarly to questions related to teacher training. The teachers on both campuses discussed their respective educational backgrounds, and they also offered reasoning for why certain areas of their education may or may not have been

applicable for the individual intervention programs. After a comparison of the results from these survey responses, it was noted that the backgrounds and training for the adult participants varied slightly between Campus A and Campus B. The teachers' overall responses related to their schooling and training are charted in Table 23.

Table 23

Teachers' Educational Background and Formal Training in Reading Remediation

Adult Participants by Campus	*Associate's Degree* (or 60 hrs of college credit)	*Bachelor's Degree*	*Master's Degree*	*Formal Training* in Reading Remediation
Adult #1-A Campus A	✓	✓	✓	✓
Adult #2-A Campus A	✓			✓
Adult #3-A Campus A	✓	✓	✓	✓
Adult #4-A Campus A	✓			✓
Adult #1-B Campus B	✓	✓	✓	✓
Adult #2-B Campus B	✓			
Adult #3-B Campus B	✓	✓		✓
Adult #4-B Campus B	✓			

All of the adult participants on Campus A had completed at least 60 hours of college credit. Two out of the four adults held Master's Degrees in Education. All four adult participants were formally trained in reading remediation and/or intervention methods at some point in their educational careers. Adult Participant #1-A was a "Rally to Read" program facilitator. She also identified herself as the reading specialist for Campus A. Adult Participant #2-A noted that she was previously a Scottish Rite

facilitator for seven years. Adult Participant #3-A was an experienced, retired teacher who earned a master reading certificate prior to working in the "Rally to Read" program. Adult Participant #4 had previously worked in special education with individualized reading instruction and dyslexia programs. Survey responses indicated that each adult participant in the "Rally to Read" program had been employed on Campus A for several years prior to working with the program. Also, responses indicated that three out of the four adults had been working with their Tier 3 students in some capacity for the past three years. All four of these adult participants had worked with reading remediation in some form for at least three or more years on Campus A.

In their responses, all four adult participants on Campus A felt that their educational backgrounds were sufficient in order to prepare them for the students in the "Rally to Read" program. Additionally, three out of the four teachers felt that the training for the "Rally to Read" program was adequate to help them foster student success. As stated in response to Question #4 of this study, Adult Participant #3-A was the only individual who felt that the "Rally to Read" training needed improvement with regards to the LIPS component. At the same time, the adult participants for "Rally to Read" were pleased with the overall success of the program, and they felt that their relationships with students were the key to student achievement in the program.

All of the adult participants on Campus B had completed at least 60 hours of college credit. One of the four adults held a Master's Degree in education, and one other teacher held a Bachelor's Degree in education. These two adult participants also received formal training in reading remediation at some point in their educational careers. The other two adult participants had not received any formal training in reading remediation

prior to their participation with Tier 3 I-Station interventions. However, according to survey responses, it was notable that each adult participant on Campus B had been employed on Campus B for five or more years. Three out of the four adults had been working with the Tier 3 students on Campus B in some capacity for the past two years. In addition, all four adult participants had worked with students who struggled in reading in some form for at least four or more years on Campus B. Two out of the four adults were familiar with Imagination Station interventions and progress monitoring pieces prior to the given school year.

In their responses, only two out of the four adult participants on Campus B felt that their educational backgrounds were sufficient in order to prepare them for the Tier 3 students who participated in the Imagination Station progress monitoring program. As shown in response to Question #4, only 1 out of the 4 adult participants on Campus B felt that the training for Imagination Station was sufficient. The program supervisor, Adult Participant #2-B, noted that, "The training for I-station was minimal. We all attended the training together, but we didn't realize the extent of the program until we started working with it. The program is great for progress monitoring. I just wish we had been given more direction for the instructional pieces" (Survey Response, June 24, 2009). Adult Participant #1-B and Adult Participant #3-B also agreed that the I-Station training needed improvement.

Summary of Results

The achievement scores for the "Rally to Read program on Campus A, as measured by I-Station assessments, showed significant changes and improvement over time when compared to the achievement scores of Tier 3 students on Campus B. An

ANOVA statistical test was applied to the comprehension fluency rates and timed reading with meaning scores for the first and last months of the school year on both campuses. A *t*-test was also performed on this data for each month of the school year. The ANOVA test and the *t*-test both indicated that the differences between the I-station scores for Campus A and Campus B were statistically significant at the .05 level.

The amount of time spent on I-Station curriculum for Campus A and Campus B was analyzed. Tier 3 students on Campus B spent three times the amount of minutes on I-station curriculum that the Tier 3 students on Campus A. An ANOVA statistical test was applied to the average amount of time spent each month. A *t*-test was also performed on this data. The ANOVA test and the *t*-test indicated that the monthly differences in I-station usage time on Campus A and Campus B were statistically significant at the .05 level.

Student behavior data in the "Rally to Read" program was analyzed. An ANOVA statistical test was applied to the monthly disciplinary referral averages. A *t*-test was also performed on this data. The ANOVA test and the *t*-test both indicated that the differences in monthly disciplinary referral averages for Campus A and Campus B were statistically insignificant at the .05 level. However, it was noted that the referral rates for Campus A were sizably smaller by end of the school year.

Teacher perceptions of the "Rally to Read" program on Campus A were reviewed and compared to the survey responses from adult participants in the Imagination Station program on Campus B. Notably, all four of the adult participants in the "Rally to Read" program agreed that the "Rally to Read" initiative had a positive impact on student behavior. Teacher responses also indicated that the small amount of time spent on the I-

Station curriculum was beneficial to the "Rally to Read" students. While the views and opinions of the adult participants on both campuses were mixed, an overwhelming majority of the "Rally to Read" adult participants agreed that the "Rally to Read" program was a positive, rewarding experience that benefited students' academic success and behavior.

Teachers' educational backgrounds and formal training were also analyzed and compared between Campus A and Campus B. The "Rally to Read" adult participants in Campus A felt that their schooling and training adequately prepared them to service the struggling readers in the Tier 3 program. One adult participant pinpointed a need for improvement with the LIPS training component of "Rally to Read." As a whole, the adult participants on Campus A appeared to have held broader, more thorough educational backgrounds and training than the adult participants on Campus B.

CHAPTER FIVE

Conclusions from the Results

This research study analyzed reading assessment scores, program usage times, student disciplinary referrals, and teacher survey responses on two elementary campuses in order to evaluate the effectiveness of the "Rally to Read" remediation program as a Tier 3 intervention method. Comprehension fluency scores and timed reading with meaning scores served as the primary basis for monitoring the progress and achievement of Tier 3 students over a period of one school year. Individual teacher survey responses were also analyzed to help aid in the evaluation of data as it pertained to student success in the "Rally to Read" program. Teacher perceptions related to program training, curriculum, and overall program effectiveness were compared in connection with quantitative data so as to generate conclusions related to student performances over time.

"Rally to Read" as a Tier 3 Intervention for Reading Comprehension

In this study, the "Rally to Read" program was utilized as a Tier 3 intervention method for struggling readers as part of the Response to Intervention (RTI) process. RTI assists teachers as they identify students' learning deficiencies, provide tailored interventions for student success, and monitor individual student achievement over time. The No Child Left Behind (NCLB) Act of 2001 stated that "all students will be literate by the end of the 3rd grade school year" and that "all reading instruction and remediation should be scientifically research based" (No Child Left Behind [NCLB], 2002, Sec. 1208). In addition, NCLB mandated standardized reading assessments for all students

from grades 3 through 8 (NCLB, 2002, Sec. 1208). As a result of this legislation, a method of identifying and addressing students' learning deficiencies, known as Response to Intervention, has been implemented in public schools across the country. Schools that identify reading deficiencies in struggling learners strive to adequately address those reading weaknesses with varied, research-driven approaches. As noted by Snow, Burns, & Griffin (1998), reading is critical to the fundamental success and performance of individuals in society. In this study, the "Rally to Read" program was implemented in a Texas school, Campus A, as the primary method of reading intervention for Tier 3 students within the RTI process.

Change in Student Achievement Scores over Time

The first question of this research study addressed the differences in I-station assessment scores, over time, between Campus A and Campus B. Comprehension fluency scores and timed reading with meaning scores were listed and distributed by each month of the school year. Based on the overall numeric scores, Campus A and Campus B both demonstrated a considerable increase in overall achievement scores in both categories at the end of the school year. A simple analysis of variance (ANOVA) test and a *t*-test for statistical significance were applied to the first and last months of the school year between each of the campuses. In addition, a *t*-test was applied to each month of the school year for both assessment categories. This allowed the researcher to observe changes in student progress between the campuses, over time, from one month to the next.

Both tests determined that the differences between the I-Station achievement scores for the month of September (BOY) and April (EOY) were statistically significant.

Campus A yielded gains of 65.73 points and 95.82 points in comprehension fluency and timed reading with meaning, respectively. Campus B yielded gains of 40.81 points and 52.36 points in comprehension fluency and timed reading with meaning, respectively. This was the most significant finding in this study with regard to the students' I-Station achievement scores. While Campus A and Campus B both demonstrated progress in comprehension and fluency related to their specific programs, Campus A clearly exhibited more significant and higher achievement, over time, when compared to the progress of students on Campus B. The Tier 3 students on Campus A were the only students in this study who received "Rally to Read" services throughout the school year. Tier 3 students on Campus B received curriculum from the I-Station program as the sole means of Tier 3 intervention within the RTI process. As shown in earlier research, the speed at which children are able to read and comprehend text is a common progress monitoring tool for reading intervention programs. A student's ability to read fluently can be a strong indicator of overall reading comprehension skills (Fuchs, D. & Fuchs, L., 2005; Griffiths, VanDerHeyden, Skokut, & Lilles, 2009; Moats & Lyon, 1997; Schwanenflugel, Kuhn, Morris, Morrow, Meisinger, & Woo, 2009; Stanovich, 1986). As a result, the research and the data from this study demonstrated that the "Rally to Read" program displayed a numerically and statistically significant impact on the overall reading achievement of students on Campus A over the duration of the school year.

Time Spent on I-Station Curriculum

The second question of this study addressed the amount of time spent on the I-Station curriculum for Campus A and Campus B. A simple analysis of variance (ANOVA) test and a *t*-test for statistical significance were applied to the total amount of

monthly minutes spent on I-Station from each campus. The results of both these tests yielded statistical significance at the .05 level. Data showed that the Tier 3 students on Campus B, who were not receiving "Rally to Read" services, spent significantly more time on the I-Station curriculum than the Tier 3 students on Campus A. This result was primarily due to the fact that the Tier 3 students on Campus B received the I-Station curriculum components as the their singular intervention program within RTI. Most notably, the Tier 3 students on Campus A demonstrated higher comprehension and fluency scores, as shown from I-station assessments, with only a minimal amount of time spent on the I-station curriculum. Tier 3 students on Campus B also yielded adequate progress on their comprehension and fluency scores, but their progress over time was not as significant as the Tier 3 students on Campus A. Campus B only utilized the I-Station curriculum components. These results supported the use of the "Rally to Read" program as a Tier 3 intervention on Campus A.

Additionally, the teachers in the "Rally to Read" program made a few comments in their surveys related to the I-Station usage time. Some of the teachers who participated in the "Rally to Read" program felt that the small amount of time spent on the I-station curriculum was advantageous for the "Rally to Read" students. Two of the teachers felt that the I-station time was quick, easy, and helpful. They noted in the "individual comments" section of the surveys that the I-station charts and graphs helped to identify student progress, thereby encouraging students on a frequent basis. Overall, the adult participants on Campus A credited the "Rally to Read" program as having had the strongest impact on the students' I-station achievement scores. Most of the adults also

agreed in their surveys that the I-station curriculum components were helpful as a supplement to "Rally to Read."

Impact of the "Rally to Read" Program on Student Behavior

The third question of this research study reviewed the disciplinary referral rates of Tier 3 students in the "Rally to Read" program, on Campus A, and compared them to the Tier 3 student discipline referrals on Campus B. A simple analysis of variance (ANOVA) test and a *t*-test for statistical significance were applied to the average monthly referral rates on each campus. Both tests yielded that the differences between the monthly disciplinary referral averages were statistically insignificant at the .05 level. However, while the referral averages for the month of September (BOY) were similar on both campuses, the referral rates for Campus A and Campus B in the month of April (EOY) were 0.09 and 0.55, respectively. The end of the school year, a time when student discipline referrals tend to increase, was when Tier 3 students on Campus A had a noticeably lower rate of reported disciplinary incidents. In addition, the overall number of referrals for Tier 3 students in the "Rally to Read" program on Campus A was smaller in the second semester of the school year. This data demonstrated that the "Rally to Read" students were gradually referred to the office fewer times as the school year progressed. These results suggested that the "Rally to Read" program may have had a considerable impact on student behavior. Qualitative responses from adults in the "Rally to Read" program also supported this conclusion.

After reviewing the surveys, all four of the adult participants from "Rally to Read" on Campus A agreed that the "Rally to Read" program had a positive influence on Tier 3 student behaviors. These teachers noted that "Rally to Read" encouraged students

through frequent success and reading achievement within the program. The adult participants also agreed that while the "Rally to Read" program boosted students' confidence in reading, the change in academic ability also reduced incidents of misbehavior and disrespectfulness. According to the adults on Campus A, the "Rally to Read" program assisted the students in gaining more respect for themselves and the teachers. Research has demonstrated a connection between students' behavior and students' academic performance (Elliot, 2008; Fuchs & Fuchs, 2006; Gresham, Lane, O'Shaughnessy, & Beebe-Frankenberger, 2003). The numeric discipline referral data in this study, combined with survey feedback on Campus A, suggested that the "Rally to Read" program had a substantial, positive infuence on student behavior throughout the school year.

Perceptions of Teachers and Staff Members

The fourth question of this research study involved the analysis of survey responses from adult participants on Campus A, who worked with the "Rally to Read" program, and adult participants on Campus B, who only worked with the Imagination Station program. These responses reflected the general perceptions of the teachers who worked with Tier 3 students in both schools. The survey response results were distributed into five categories in order to help evaluate the overall success and value of the "Rally to Read" program. These five categories included: adult program training, program effects on student behavior, views of program curriculum, adult relationships with students, and overall program effectiveness.

Program training for adult participants. Teacher responses on the individual surveys showed that three out of the four adults in the "Rally to Read" program felt that the program training was sufficient to help students achieve success in reading comprehension and fluency. The only suggestion came from Adult Participant #3 who felt that the LIPS component was oftentimes difficult for the teachers to implement. LIPS was only one out of the four stations provided within the "Rally to Read" rotations. While the need for enhanced LIPS training was the only caveat, all of the adult participants on Campus A advocated for the "Rally to Read" training and program implementation procedures. Only one of the four adults on Campus B felt that the training for Imagination Station was adequate. After an analysis of the survey responses on both campuses, the training for adult participants in "Rally to Read" appeared to be more thorough. These results suggested that the preparation and guidance for "Rally to Read" on Campus A was a critical factor in the overall implementation and success of the program.

Program effects on student behavior. All of the adults who participated in "Rally to Read" on Campus A agreed that the "Rally to Read" program had a positive influence on Tier 3 student behavior. Numerical data from Research Question #3 of this study also supported this notion. Conversely, none of the adult participants on Campus B felt that Imagination Station curriculum had any influence on student behavior. On Campus A, each of the adult participants relayed at least one personal example of how individual Tier 3 students had changed his or her behavior throughout the school year while participating in "Rally to Read." Also, the adult participants on Campus A credited the "Rally to Read" program with drastically increasing reading achievement skills over a

short period of time. As a result, they felt that this confidence level affected the students' abilities to make better academic and social choices.

Views of program curriculum. Adult participants from both campuses gave positive written feedback about the curriculum components of their respective programs. The adults on Campus A who worked with "Rally to Read" felt that the combination of *Lexia*, *Read Naturally*, *Study Hall 101*, and the LIPS program were all extremely beneficial stations that impacted student performance. The adults on Campus B also felt that the curriculum components of I-Station were practical and useful for struggling readers. Consequently, these survey responses did not yield any specific modifications (with the exception of LIPS) from the adult participants regarding the curriculum pieces of "Rally to Read" or Imagination Station. At the same time, the adult survey comments related to the curriculum components of "Rally to Read" furthered the indication that the "Rally to Read" program was a valuable Tier 3 intervention method for all of the struggling readers in the program on Campus A.

Adult relationships with students. The adult participants on Campus A and Campus B both felt that they were able to maintain positive relationships with students during the course of their respective programs. "Rally to Read" adults on Campus A described details of the positive relationships with their individual Tier 3 students over the course of the school year. Adult participants on Campus B also explained the beneficial relationships that they formed with their Tier 3 students while implementing the I-Station curriculum. As a whole, the teachers who participated in these programs, on both campuses, agreed that the formation and maintenance of positive relationships with

students were essential to student achievement in these programs. In their surveys, adults in the "Rally to Read" program frequently reiterated the critical importance of relationships with students as part of the success factor for the program on Campus A.

Overall program effectiveness. All four adult survey responses from Campus A indicated that the overall effectiveness of the "Rally to Read" program was clearly evident throughout the school year. Adult responses cited specific examples to support their views: 1) students' comprehension and fluency scores showed significant increases by the end of the school year; 2) students who struggled with misbehavior had grown and changed during the year; 3) all of the Tier 3 students displayed more confidence in their reading abilities; and 4) all of the Tier 3 students passed the state mandated Reading TAKS assessment. In addition, the adult participants on Campus A all advocated for three of the students in the "Rally to Read" program who received a rating of "Commended" on the Reading TAKS test. These three students began the school year with some of the lowest comprehension and fluency scores of all of the Tier 3 "Rally to Read" students.

Only two of the four adult participants on Campus B felt that the I-Station program showed overall success with their students. Although each of them advocated for the progress monitoring component, several of the adult participants on Campus B felt that there was something missing from the intervention methods. While most of the Tier 3 students on Campus B performed well on the Reading TAKS test, one of the students did not receive a passing score during the first administration.

This data from this study, as well as the adult survey responses from both campuses, indicated that the "Rally to Read" remediation program was a successful,

research-based intervention for the Tier 3 students on Campus A. The overall effectiveness of the program yielded only one recommendation from the adult participants pertaining to the LIPS program. With this exception, the teachers in the "Rally to Read" program maintained consistently positive comments related to the success of the program. In addition, each of the adult participants commented that they planned to continue participation with and usage of the "Rally to Read" program over the course of the subsequent school year.

Affect of Teacher Backgrounds and Training on Student Achievement

The fifth question of this study addressed the teacher backgrounds and training in reading intervention as they pertained to the respective programs on Campus A and Campus B. The survey responses from the adult participants on Campus A indicated that all four of the teachers received some formal training in instructional reading remediation prior to participation in the "Rally to Read" program. Each of the "Rally to Read" teachers also had prior educational experience with struggling readers at the elementary level. All of the adults in the "Rally to Read" program had completed at least 60 hours of college credit. Two of the four "Rally to Read" adults held Master's Degrees in Education. The Campus A teachers felt that their education was suitable for their participation in the "Rally to Read" program.

Conversely, only two of the four adult participants on Campus B stated in their surveys that their educational background was insufficient for working with the Tier 3 students who participated in the Imagination Station program. Only one of the adult participants on Campus B felt that the training for Imagination Station was sufficient. In contrast to the adult participants on Campus A, only one of the adult participants on

Campus B held a Master's Degree in Education, and only two of the adults had been trained in reading remediation. As a result, the adult participants on Campus A appeared to have more wide-ranging experience, preparation, and schooling than the adult participants on Campus B. This may or may not have had a direct impact on the achievement of Tier 3 students on these campuses. Both sets of adult participants held active educational careers in their respective buildings. Adult Participants in the "Rally to Read" program had been employed on Campus A for several years. Adult Participants on Campus B had also worked in their building for a number of years prior to working with their respective program. With this in mind, at the conclusion of the school year, each of the adult participants on Campus A felt that their educational backgrounds were sufficient in order to prepare them for the students in the "Rally to Read" program. Campus B responses from adult participants were not as affirming.

Limitations of the Study

The purpose of this study was to determine the effectiveness and/or impact of the "Rally to Read" program on Tier 3 students on Campus A. However, there were a number of limitations to this study with regard to student data and program performance. Primarily, the archived fluency and comprehension scores from this study were taken from the performances of only eleven students on Campus A and eleven different students on Campus B. While Tier 3 groups are typically smaller than any other Tier, this number still served as a limitation with regard to overall performance and data analysis.

Another limitation in this study was the number of schools that participated in the "Rally to Read" program. The comprehension fluency scores and timed reading with

meaning scores were only taken from two campuses in the same school district. If the "Rally to Read" program was used on more than one campus with a greater number of students, then the results from these scores may have been different. In addition, Tier 3 student groups usually only contain a small number of students. It would have been ideal to have had at least one more participating "Rally to Read" campus in the study.

A third limitation in this study was the potential for teacher bias during the administration of the respective programs. Several teachers on both campuses commented on program fidelity in their individual surveys. Adult participants noted that they formed positive relationships with their students. As stated in teacher responses, this was an important element in the success of the individual programs. However, teacher bias related to the "Rally to Read" and I-station components may have affected the instruction and implementation processes for both programs as Tier 3 intervention approaches. The issue of fidelity continues to rise as a growing concern throughout the implementation process of RTI programs across the country.

In addition, there were local elements that may have limited the overall performance of the individual programs. Student responses, student backgrounds, classroom settings, and student motivation may have contributed to the students' willingness to participate in the respective programs. Research has suggested that most students will need to use some form of prior background knowledge in order to learn and grow with respect to reading comprehension and vocabulary (Beck & McKeown, 2001; Harris & Hodges, 1995; Hirsch, 2006; Recht & Leslie, 1988). As a result, teacher connections and student backgrounds may have been influential factors in this study. Conversely, these factors may have also hindered certain student performances.

Recommendations for Further Research

Based on the data and research presented in this study, it may be beneficial to return to the school district where this study was administered and evaluate the long-term benefits of the "Rally to Read" program. The *Lexia*, *Read Naturally*, and *Study Hall 101* components appeared to be extremely effective with the Tier 3 student groups on Campus A. The LIPS program, while also demonstrating success, may have required more detailed evaluation on Campus A. The small number of Tier 3 students who participated in "Rally to Read" moved on to the next grade level within the same school. An evaluation of their continued success and/or struggles may prove helpful in the assessment and monitoring of the "Rally to Read" program design.

This study also looked at the performance and achievement, over time, of third grade and fourth grade students in the "Rally to Read" Tier 3 intervention program. It may be advantageous to observe the progress of students in first or second grade classrooms as they respond to "Rally to Read" interventions. The Tier 3 response program on Campus A was not designed to limit its intervention to a single program. Other approaches to remediation and progress monitoring may benefit the success of individual students with regard to Tier 3 assistance.

In this study, Campus A and Campus B were both high-performing schools, exhibiting high ratings by the Texas Education Agency. While both campuses maintained moderate to high levels of low socio-economic populations, the success of the respective programs may have been influenced by more affluent surroundings. It is recommended that the effects of "Rally to Read," as well as the RTI process, be studied in schools that are lower performing and/or lack the educational resources available to the

students on Campus A and Campus B. This may allow for more evidentiary research and support for the implementation of the "Rally to Read" program as a Tier 3 instructional approach.

More notably, this study suggested that the frequent, consistent human interaction between students and teachers in the "Rally to Read" program was a significant factor in the achievement and success of the Tier 3 students on Campus A. These adult participants were highly trained and educated individuals who expressed a strong desire to work with struggling readers. As a result, the computer assisted instruction that frequently appeals to schools for their convenient, "research-based" value may not be as effective without the incorporation of caring, committed educators. Students may not benefit as strongly from reading remediation without the relational factor that appeared to be evident in the "Rally to Read" program of this study.

Conclusions

Data collected in this study demonstrated that the "Rally to Read" initiative appeared to be a successful, positive, and beneficial intervention program for Tier 3 students on Campus A. Quantitative data from two of the first three questions in this study demonstrated statistical significance at the .05 level. While the third question related to behavior did not show statistical significance when applied to average monthly disciplinary referrals, the positive effects of the "Rally to Read" program on student behavior were sustained by each adult participant in the program in their individual survey responses. The "Rally to Read" teachers on Campus A felt that the close, positive relationships with students during the "Rally to Read" program had a substantial impact on the students' overall growth and performance. The teachers on Campus A felt that the

program helped build student confidence, encourage positive relationships, and increase overall academic success. They also felt that "Rally to Read" helped to reduce the number of disciplinary referrals to the office due to the program's ability to foster the students' love for reading.

Qualitative data for all three of the final questions yielded support for the "Rally to Read" curriculum, relationship-building elements, program training, and overall program performance on Campus A. Teacher survey responses from the "Rally to Read" campus were consistently encouraging and supportive of "Rally to Read" as a Tier 3 intervention for struggling readers.

The academic accomplishments of the students on Campus A, as well as the positive changes in behavior, also spoke to the validity and reliability of the "Rally to Read" program. At the end of the school year, all eleven of the Tier 3 student participants on Campus A passed the state mandated Reading TAKS test. Of these students, three out the eleven "Rally to Read" students received the rating of "Commended" on their Reading TAKS assessments. The "Rally to Read" remediation program also spread to a number of neighboring campuses in the district where this study took place. Campus B of this study, which did not utilize the "Rally to Read" program, chose to adopt "Rally to Read" on its campus for the subsequent school after learning of the program's success on Campus A.

Additionally, the parents of many of the students on Campus A reportedly expressed their satisfaction with the results of the "Rally to Read" program over the course of the given school year. Adult participants on Campus A noted their encouragements to parents as they credited "Rally to Read" as a program that fostered

confidence, enthusiasm, and a love of reading. The adult participants on Campus A also noted that the relational aspect of "Rally to Read" was critical to the overall performance of the Tier 3 students. This human element of the Tier 3 intervention appeared to be an important, driving factor in the success of the program.

Public schools continue to search for applicable, effective, research-based approaches for addressing the learning needs of Tier 3 students. As part of the RTI process, Tier 3 instructional approaches are critical to the identification, progress, and achievement of struggling readers. The "Rally to Read" program demonstrated success in a variety of areas pertaining to students' academic, social, and behavioral performance in the educational setting. The RTI process was designed to help effectively identify the specific learning deficiencies of struggling readers in all Tier levels. Ultimately, the data from this study suggested that the "Rally to Read" program served as a promising academic and behavioral approach for struggling Tier 3 students.

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