# PERCEPTIONS OF THE RESPONSE TO AN INTERVENTION PROGRAM IN AN ELEMENTARY K-4 SCHOOL SETTING

by
Tori Ogle Young

A Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Education
Assessment, Learning, School Improvement Program

Middle Tennessee State University
August 2018

Thesis Committee:
Chair Dr. Kevin Krahenbuhl,
Dr. Jim Herman
Dr. Bridgette Jones

I dedicate this research to my family. My husband, Drew, who loved me and encouraged me through this process, and my children Andy, Emma, and Aidan who all love to read and they were so encouraging to me during this process. I love you all!

I also dedicate this research to the many students who struggle each year with the process of learning to read and to the many educators who give their time and energy to help them on their reading journey. Teaching 1st grade has been a blessing to me in so many ways.

I also dedicate this research to my mother, Kathy Ogle, who has been such a positive influence in my life, and I want to thank her for instilling the love of reading in me and my children. I love you, Mom!

 I also want to recognize my father, Donny Ogle, who always encouraged me to do my best in everything I do and to never quit. He taught me to believe in God and follow his word.  His words brought me through this process. I love you, Dad!

## ACKNOWLEDGMENTS

## ABSTRACT

RtI is a three-tiered program that uses data collected from benchmark assessments and progress monitoring (Fuchs, et al 2008). Tier I includes all children, and it is the level that all students would like to achieve. Tier II includes children who show minor gaps in their abilities in reading, and they require specific intervention to help close the learning gaps. Tier III includes children who require extensive instruction to fill major gaps in the student's learning process. The level of intervention to be used is based upon the specific learning needs for each child. If growth is not achieved after a certain amount of time, then the child can be referred for further testing in the Special Education Program to determine the possibility of a learning disability. This study designed a survey tool to quantitatively measure the perceptions of teachers in regards to the challenges and effectiveness of RtI.

In a K-4 school, the experience of teachers varies greatly within the culture of the school. Some teachers have many years of experience while others have very little experience. Within this small school approximately 12% of teachers have five or fewer years of teaching experience, and 88% of teachers have more than five years of teaching experience. Although significant evidence exists with regards to the effectiveness of RtI, less investigation has been done into teacher perceptions about RtI during its early phases of implementation. This descriptive correlational study was created to use survey data to assess teacher perceptions of the impact that the RtI program has in the elementary classroom. The researcher designed a survey tool to quantitatively measure the perceptions of teachers in regards to the challenges and effectiveness of RtI. Using this

information, the survey evaluated the perceptions of RtI currently being used in the school. This study compared the views of veteran teachers and new teachers to allow comparison as another form of evaluation of the RtI program. Among the educators at this school, there were varying perceptions of the RtI program, but they had yet to be formally documented.

**TABLE OF CONTENTS**

# LIST OF TABLES

# LIST OF FIGURES

**CHAPTER I**

**INTRODUCTION TO THE STUDY**

*"When we learn we are obligated to teach."- Maya Angelou*

**Introduction**

A goal in every child's life is to learn to read, and a goal for every teacher is to

teach each and every child the importance of reading. Teachers also hope to instill the

love of reading in their students. Yet, many children were not instilled with the notion

that reading is important at the home of their youth. The children of the 21$^{st}$ Century are

inundated in a technologically-rich society that values brevity and immediate

gratification. Teachers find this as an extra challenge and not a burden, and reading

groups have helped educators to reach the needs of these students for many years.

Administrators wanted a method for calculating growth for every child's transition and to

monitor growth in their reading abilities. This growth needed to be based upon actual

data as well as the perception of the professional teacher. Over time, this group has

experienced a metamorphosis in the world of education and especially reading. School

systems have tried many programs to advance reading skills, such as DIBELS (Dynamic

Indicators of Basic Early Literacy Skills), Saxon Phonics Program, and the Reading

Rockets website. One widely adopted framework that is currently used to monitor student

data is Response to Intervention (RtI). This program is also known as a Multi-Tiered

System of Support (MTSS), but this study will use the term RtI.

RtI is a three-tiered program that uses data collected from benchmark assessments

and progress monitoring (Fuchs et al , 2008). Tier I includes all children, and it is the

level that all students would like to achieve. Tier II includes children who show minor gaps in their abilities in reading, and they require specific intervention to help them close the learning gaps. Tier III includes children who require extensive instruction to fill major gaps in the student's learning process. The level of intervention to be used is based upon the specific learning needs for each child. If growth is not achieved after a certain amount of time, then the child can be referred for further testing in the special education program to determine the possibility of a learning disability.

This study designs a survey tool to quantitatively measure the perceptions of teachers regarding the challenges and effectiveness of RtI. The researcher pilots the survey at another school that also implements RtI in the same school district to confirm reliability and validity before formally implementing it at the case school for data collection. Teachers at the pilot school take the survey and then participate in a focus group to provide further feedback for reliability. The data from this pilot study is assessed for consistency using Cronbach's alpha. Using this information, the survey evaluates the perceptions of RtI currently being used in the school as well as the individual level characteristics that impact these perceptions such as years teaching, grade level taught, and experience with other reading programs. Seedorf (2014) expressed the importance of cyclical PD to offer assistance to teachers throughout the year and help them obtain the support needed to implement this program correctly. This study reflects perceptions about the program and provides information about how the teachers responded to the implementation of the RtI program based upon the level of professional development

received as novice teachers versus the level of college preparation received in the teacher education program for beginning teachers.

**Background and Context of Study**

In a small suburban school district located in the southeastern United States, there is a pre-kindergarten (Pre-K) to fourth grade school of 650 students that has been in existence over one-half century. This school, like many other Southern schools, has worked to create a school culture that welcomes students of various ethnic backgrounds with a community-based atmosphere. Many students have passed through its halls, and the feel of family and community come together to meet a common goal: the art and love of reading should be instilled in all students.

The community focuses upon this school to bring special activities to the students; for example, a local bank encourages the celebration of Ted Geisel more commonly known as Dr. Seuss. This is a weeklong event that allows children to dress up in different ways each day, and the teachers focus on reading and interactively discussing Dr. Seuss's beloved children's books. As a celebration at the end of the week, the local bank supplies the school with red and white cupcakes symbolizing the famous character The Cat in the Hat and each child enjoys eating his/her own cupcake. The local Future Farmers of America Chapter (FFA) provides a program that integrates agriculture into the classroom. High School FFA Students motivate elementary children to read and spread their love and knowledge of agriculture using books and culminating activities that relate the experience to their own lives. Another program is the Grandmother Program. In this program, grandmothers of students in the school or elderly ladies from the community

who want to help, come into the classroom and lovingly assist a child to learn to read. This small community believes in the importance of education and they make it a priority to help all students learn to read.

The goal of public education in the United States is to teach all children and provide the opportunity to learn the best they can for lifelong success, and the art of reading is an important skill to contribute to a successful life. In fact, the skill of reading is much like the importance of preparing food or learning to drive a vehicle—as Spear-Swerling (2015) suggested, the goal of which is to produce highly skilled drivers who can operate a car safely under a wide range of road conditions is a result of good driving instruction. This analogy can be used when considering the importance of children learning to read in a literate society and live a well-rounded and productive life in the United States. Therefore, the public-school system of the United States must provide highly skilled reading lessons followed by frequent formative assessments to every student capable of learning to read.

Over the decades, this school has adopted and mandated many reading programs to ensure every child has the best instruction to learn to read. The current program mandated by the school board and administration to be used to ensure literacy in education is called Response to Intervention or RtI. Hunley and MacNamera (2010) described RtI: "RtI is a school-based system designed to identify and meet children's needs through increasingly more focused and intensive levels ("tiers") of assessment and intervention" (p.1). This definition creates an initial understanding of RtI, emphasizing a more focused and intensive level of assessment and intervention. Assessment and

intervention is very important in the RtI process, but it actually consists of many related progress monitoring components. In an RtI model, teachers use progress monitoring to evaluate the progress of the student during intervention. Progress monitoring helps teachers evaluate student success while using research-based interventions. (Fuchs & Fuchs, 2006; Gresham, 2002). The RtI program is a valuable to the students and educators because it focuses on what aspects each individual child needs to develop to improve their capacity for making sense of a cacophony of voices in an information-overloaded society. RtI has been developed in elementary schools using a three-tier system, so within the RtI model, students are given a benchmark test at the beginning of the school year to determine what "tier" of learning they will be receiving instruction.
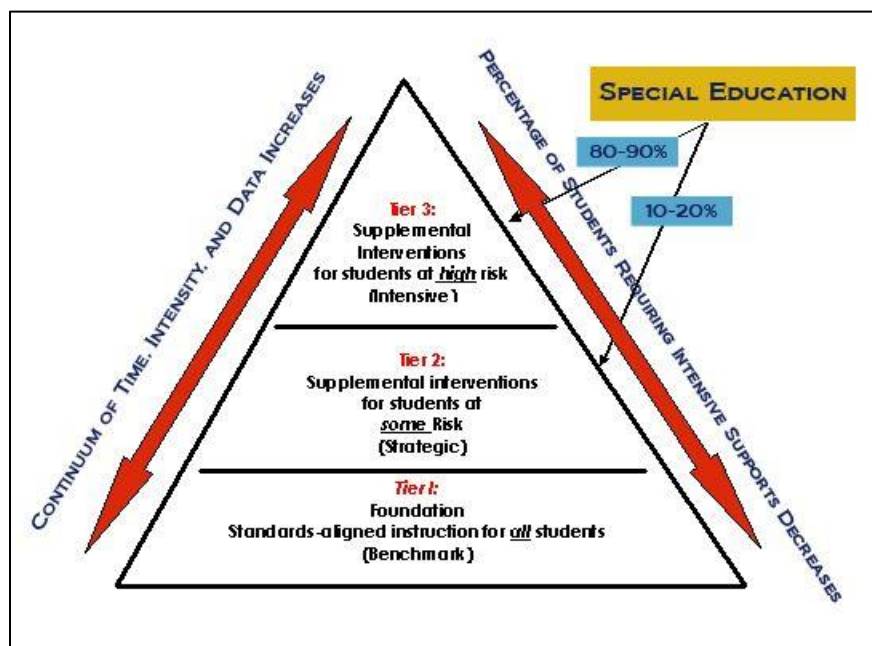


Figure 1: Multi-Tiered RtI (Gorski, n.d.)

Within Tier I instruction, all children receive high-quality, research-based instruction provided by the classroom teacher, and it includes whole-group instruction per state guidelines and mandated school system expectations. This ensures any learning difficulties encountered by a child do not stem from lack of a research-based reading/literature program used for whole-group instruction. Furthermore, Tier I instruction is provided for all students using unit-based literature and instruction from a core reading program or both (Lenski, 2011).

All students are given a benchmark assessment at the beginning of the school year which identifies an academic baseline, and it identifies the struggling learners who need additional support, also called "intervention." The length of time for this step can vary, but typically it should not exceed eight weeks. During the eight-week time frame, student progress should be closely monitored using a progress monitoring screening system such as AIMSWeb. AIMSWeb provides the framework, data, and guidance needed by administrators and teachers to efficiently allocate and evaluate core instruction and interventions which in turn helps them improve outcomes for all students based on continuous and direct student assessment. Students are normally tested every two weeks, and instruction is adjusted to meet the needs of the students at that time. At the end of this eight-week time frame, the teachers and administrators use the data to determine which students are showing progress and which students are not showing progress. Students showing progress can be returned to the regular classroom program, and students who do not show adequate progress are then moved to the Teir II intervention program.

Tier II aids students who are identified as having some learning gaps and provides increasingly intensive instruction to build skills needed to fill the learning gaps. The Tier II intervention teacher may be a reading specialist or a general education teacher using a research-based intervention system. These services and intervention are provided in small-group settings in addition to regular reading whole group instruction time. These groups meet daily for a time period of 30-40 minutes, as stated in the RtI guidelines provided by the school, and the time-frame for the intervention does not exceed a grading period. Student progress is assessed and monitored through a screening system such as AIMSWeb, which is employed as a data tracking system at the case school. The progress monitoring process occurs every two weeks, and the data is logged into the AIMSWeb data system, and then a data team meets on a monthly basis to determine the effectiveness of the intervention program. The intervention is adjusted, if needed, to see if the child is capable of improving at a faster rate with a different intervention program. Students who show inadequate progress at the end of this level of intervention are considered for a more intensive intervention: Tier III.

Tier III consists of a few students who have not made adequate progress in Tier II and need more unique instruction tailored to their personal learning process. The students meet daily for a 45-minute time period with a Reading Specialist in a small group of one to three students with similar gaps. However, the lessons are tailored to meet the individual needs of each student. This is an individualized learning process which contains intensive interventions that target the students' skill deficits. If the student does not show the desired level of progress at the end of this intensive training process, then

he/she is considered for special education services under the Individuals with Disabilities

Act of 2004 (IDEA, 2004).

The data collected on the students from Tiers I, II, and III is to make eligibility

decisions. These decisions are made by the administrative team and the RtI team and

reported to the classroom teacher. The use of data by the classroom teachers is one of the

biggest problems regarding RtI at this point, and more cyclical professional development

may help to alleviate this issue. At any point of the RtI process, under the IDEA Act of

2004, a parent can request special education testing to determine if a learning disability is

present and needs to be addressed. With the three-tiered system, novice and veteran

teachers can integrate the data which in turn closes the generational gap of educators and

allows more focus to be placed upon the students and less discussion between the

generations. This is known as *fidelity*. Fidelity checks monitor the instruction provided by

the teacher, and proper implementation of the RtI process ensures the program is being

delivered correctly to the student (Gresham, MacMillan, Beebe-Frankenberger, &

Bocian, 2000). In addition, fidelity ensures that everyone involved follows the same

program procedures and assessment practices for each child. Fidelity monitoring of the

RtI process must examine screening and monitoring procedures and ensure proper

decisions are made based on data (Fidelity of Implementation, n.d.). Progress monitoring

is performed every two weeks to assess the progress of the students, and reading skills are

adjusted to accommodate the current learning level of the student every two weeks to

ensure progress and individual plans are being met and each child is being

accommodated. Figure 1 represents a visual depiction of this three-tier model for RtI as it is employed in this school.

**Implementation of RtI at Study Site**

The RtI program is implemented by teachers and special education teachers under the advisement of school administrators. The role of those teachers consists of considerable preparation as well as collaboration with the administrative team and the RtI team. The administrative team consists of central office staff and school administrators involved in the RtI process and school improvement plan. The RtI team consists of a group of reading specialists who work with students in Tier III, and it also involves the classroom teachers who work with Tier II students as well as provide RtI Tier I instruction to their classes as a whole. In the past, general education teachers were primarily responsible for teaching the core curriculum based upon the standards of the state. If the general education teacher identified a possible learning disability, he/she would recommend this student for evaluation by the special education department instead of trying other means of curriculum implementation to better suit the need of the child. The over-identification of students with learning disabilities has heightened concerns about the quality of education that students are receiving. Brownell et al (2010) stated that many scholar and policy-maker concerns are based in the over-identification results in part from schools' failure to employ effective, evidence-based practices. The use of such practices minimizes the misidentification of students as learning disabled by ruling out the possibility of inadequate instruction. Concern over the failure of public schools to

produce results has led to an accountability movement in schools that is unparalleled in

any other educational era (p. 366). In 2004, the IDEA was reauthorized to place an

emphasis on early intervention services for at-risk children:

> The Tennessee State Board of Education approved Special Education
> Guidelines and Standards regarding evaluations for Specific Learning
> Disabilities (SLD). The path to identification moved away from a
> discrepancy model, sometimes called a "wait to fail" approach, and since
> July 1, 2014, the RtI² model has been our statewide approach to
> identifying students with SLDs. The Special Education Guidelines and
> Standards require all districts and schools to use RtI² to determine the
> eligibility of students to receive special education services for SLDs;
> however, identification is not the sole purpose of RtI² (Tennessee
> Department of Education, n.d., p. 2).

This system had to be corrected in a manner that could show proof of a specific learning

disability which would provide reasoning for the special education assessment process.

General education teachers now play a more critical role in the special education

process using the RtI process. This process now begins with a benchmark test using a

universal screener in Reading at the beginning of the school year for all students in

kindergarten through fourth grade. These tests are implemented by the RtI team in

conjunction with the general education teacher. The data obtained from this testing

procedure are collected and placed into the AIMSWeb data program to determine each

student's level of instruction and to close any learning gaps identified:

> AIMSWeb is a benchmark and progress monitoring system based on direct,
> frequent and continuous student assessment. The results are reported to students,
> parents, teachers and administrators via a web-based data management and
> repoRtIng system to determine response to instruction. AIMSWeb's data-driven
> model provides Curriculum-Based Measurement (CBM) assessments for
> benchmarking and progress monitoring, in addition to web-based data
> management, chaRtIng, and repoRtIng. Together, these components provide a
> complete system to benchmark and monitor students' acquisition of essential
> academic skills (Pearson/Psych Corp, 2009 p.2).

Once the data collection from AIMSWeb is complete, the administrative team calls a grade level meeting to determine which children require the more intense Tier III services. The students who are identified for Tier III require written parental consent to participate in this intervention. Once written consent is obtained, the students are taken to the Reading Center and receive direct instruction based on specific learning gaps. The progress of these students is monitored every two weeks, and instruction is adjusted to meet their current needs. These students also receive the core instruction provided by the classroom teachers with modified expectations.

Due to extensive changes in education, observers might expect differences in the feelings of veteran teachers and novice teachers toward preparation. However, to date, a gap exists in the literature on how teachers perceive RtI, focusing on the factors that make it effective and also on the barriers to success within the program. The closest study to the one proposed herein is Martinez and Young (2011), which looks at implementation of RtI in South Eastern Texas. As a single component of this study, Martinez and Young (2011) asked teachers about their opinion of the RtI process:

> As part of the survey educators were asked to give their opinions about the RtI process … Overall the majority of the respondents indicated they felt that RtI benefits students. However in examining their comments a theme emerged. The respondents indicated that they were already helping their students before RtI. One respondent wrote: 'The students included in the RtI process are the same students who were being serviced before RtI was part of the process. Another wrote, There are some benefits, yes. But if you are a good teacher you are NOT going to let a student having problems fall by the wayside. We are here for the children. It just takes so much extra time to document every little thing that you do to prove that you ARE helping the child. Finally, along this same theme a respondent wrote, We do interventions all the time for all the students as needed. RtI helps put a process/structure in place but the time and documentation is sometimes prohibitive' (Martinez & Young, 2011, p. 45-46).

While Martinez and Young (2011) developed a tool to assess perceptions of RtI among teachers implementing the program, Southern Middle Tennessee and South Eastern Tennessee serve very different populations, and their study did not compare perceptions by teacher factors, such as grade taught or number of years teaching.

Preservice teachers have just completed a college education program and are new to the teaching profession. According to studies regarding general education, pre-service teachers have concerns over the RtI process, specifically about the preparation involved with the program and the knowledge used to decipher data properly within the RtI program (Tillery et al., 2010). According to Barrio and Combes (2015), these concerns stem from increased diversity in the classroom, instructional innovations, and following public policy. Sandholtz (2011) found that pre-service teachers are concerned about teaching strategies, planning and organization, behavior management, collaboration, and working with diverse students and families.

RtI framework implementation is a major concern for school districts. The district wants to ensure teachers understand all components of the RtI process, including a full understanding and administrative support during the implementation process (McCombes-Tolis & Spear-Swerling, 2010). Richards et. al suggested a strong component of RtI is to address the concerns of veteran teachers by having a strong support system from administrators (2007). Administrators need to include teacher input as a significant component of the data decision making process. If the veteran teachers understand the entire process of RtI and are included in every step, the curriculum-based measurement and progress monitoring measures will be understood. Furthermore,

integration into their normal progress monitoring and data-based decision making will become routine (Richards et al, 2007).

**Statement of the Problem**

It is not known to what extent teachers from this small community school support the RtI program and the factors that influence their perceptions of effectiveness of the program. This study surveys teachers at the case school to collect data on their perceptions of the RtI program as well as their background as a teacher. Survey domains include perceptions of effectiveness of the program, factors that make the program effective, any barriers or challenges in implementing the program, number of years teaching, and a demographic questionnaire.

**Purpose of the Study**

The purpose of this study is to perform a program evaluation to situate the school's transition in a larger context, inform scholars about challenges of practitioners implementing RtI, and inform the school in its efforts to improve learning for all. It will examine veteran and novice teachers and their experiences and their perceptions of RtI implementation at a small, rural school. RtI was piloted in 2013-2014 and has been used in its entirety since 2015. The literature that informs the administration and staff about RtI often looks at the current processes the school uses to identify students for intervention programs. Ultimately, the focus of this quantitative study of RtI is to implement a survey at a small, rural school and to assess differences in these perceptions based on length and time of teaching.

**Central Questions for the Study**

The objective for this study is to explore perceptions of the effectiveness of the RtI program in an elementary school setting. The researcher's hypothesis is that the current use of RtI could be useful for some students yet possibly detrimental to the progress of other students.

1. How do teachers in a rural school perceive the effectiveness of the RtI program early in its implementation?

    a. What relationship exists between teacher perceptions of RtI effectiveness and the age of the educator?

    H0: There is no difference in perceptions of RtI of teachers based on the age of the educator

    H1: There is a difference in perceptions of RtI of teachers based on the age of the educator

    b. What relationship exists between teacher perceptions of RtI effectiveness and the number of reading programs utilized?

    H0: There is no difference in perceptions of RtI of teachers based on the number of programs utilized

    H1: There is a difference in perceptions of RtI of teachers based on the number of programs utilized

    c. What relationship exists between teacher perceptions of RtI effectiveness and the level training that the educator has received?

H0: There is no difference in perceptions of RtI of teachers based on the level of training

H1: There is a difference in perceptions of RtI of teachers based on the level of training

2. Is there a statistically significant difference in the perceptions of RtI on the teachers based on their length of time as an educator?

H0: There is no difference in perceptions of RtI of teachers based on length of time as an educator

H1: There is a difference in perceptions of RtI of teachers based on length of time as an educator

3. Does the perception of the RtI program differ among educators depending on their faculty position in the school?

a. Are there differences in perception of RtI based on grade level taught?

H0: There are no differences in perception of RtI based on grade level taught

H1: There are differences in perception of RtI based on grade level taught

b. Are there differences in perception of RtI based on position (lead teacher, support, administration, etc)?

H0: There are no differences in perception of RtI based on position

H1: There are differences in perception of RtI based on position

The first research question is answered with descriptive data. The second question tests hypotheses using t-tests to compare responses based on number of years teaching. The third question is addressed by a series of ANOVA tests. This study identifies the experiences and perceptions of teachers in a rural school by answering a survey and comparing means of these responses based on number of years teaching. This quantitative study identifies the strengths and weaknesses of the current program, assesses teacher perceptions of current practices, and reveals barriers to implementation. These responses can be addressed to improve student outcomes.

**Definition of Terms**

1. *Data Meetings:* For this study, a team of professionals discusses the progress of the students being served in the RtI program monthly. Data is gathered, and a quick analysis is performed by the general education teacher. Questions and concerns are addressed with the administrator, and each child is placed in an intervention group based upon current educational needs. The team members consist of administrators, general education teachers, reading specialists, and a curriculum coordinator.

2. *Fidelity:* Fidelity of implementation is the delivery of instruction in the way in which it was designed to be delivered (Gresham, 2004; Gresham, MacMillan, Beebe-Frankenberger, & Bocian, 2000; Lane, Bocian, MacMillan, & Gresham, 2004).

3. *General Education Teacher:* For the purpose of this study, a general education teacher is defined as one who teaches reading, language arts, mathematics,

science, and/or social studies to elementary students in kindergarten through
fourth grade.

4.  *Individuals with Disabilities Act (IDEA):* The federal law that requires schools
    to conduct activities to locate, identify, and diagnose students with specific
    learning disabilities (SLDs) and other types of disabilities, ages 3-21, and
    provides a complete educational evaluation to determine their eligibility for
    special education services (Individuals with Disabilities Education
    Improvement Act, 2004).

5.  *Intervention Groups:* A small group of students focusing on development of
    common skills. These groups normally consist of 3-6 students, and curriculum
    can be adjusted when a skill has been mastered.

6.  *Integrity:* A multidimensional construct which includes those related to the
    delivery of the intervention, how the intervention is received by the
    participant, and how the participant is able to use the learned skills in a natural
    environment (Kovaleski, n.d.).

7.  *Response to Intervention (RtI):* The process of gathering and examining data
    for the use in developing, analyzing, and implementing research or evidence-
    based interventions used with students in the context of intervening and
    possibly evaluating a student who may be at risk academically or
    behaviorally.

8. *Self-Efficacy:* The extent to which individuals believe they can organize and execute actions necessary to bring about a desired outcome (Bandura, Adams, Beyer, 1977).

9. *Special Education Teacher:* For the purpose of this study, a special education teacher is defined as one who teaches students with intensive academic needs that cannot be met by the general education program.

10. *Teacher's Sense of Self-Efficacy:* Teacher efficacy is based on the teacher's belief in his/her ability to have a positive and motivational effect on students' academic achievement despite students' level of motivation (Dubé, Granger, DuFour, 2015).

11. *Teacher Perception:* For the purpose of this study, teacher perception includes teachers' beliefs and perceptions of the RtI process in their paRtIcular school in relationship to their professional development, years of service, role in the RtI process, and ability to implement the model effectively.

**Summary**

The importance of reading in our public education system is being addressed using an individualized approach along with data-based instruction and assessment. Teachers rely upon the data collected from the RtI program to meet the needs of all children and to help them advance in reading with an individualized approach. Teachers are also the primary actors in implementing RtI instruction. This study develops a survey tool to address teacher perceptions and implementation of the RtI program at a small elementary school in Southern Middle Tennessee. The information obtained from this

survey can be used to improve the program and reading outcomes for the students and to

provide recommendations on ways to enhance its current School Improvement Plan.

**CHAPTER II**

**REVIEW OF THE LITERATURE**

**Introduction**

RtI is a reading intervention program widely adopted across the United States as a system to improve student outcomes. This program came through reauthorization of IDEA as a best practice on a national level. The Tennessee State Board of Education adopted the RtI program in 2013, with implementation beginning July 2014 as a new pathway to identify learning disabilities in the State (Tennessee Department of Education, 2015). RtI is currently employed by Tennessee and has caught the attention of administrators, teachers, and parents seeking solutions to making improvements in the public education system (Glover & Vaughn, 2010) but with mixed responses. Due to many innovative programs and trials used over the years in education, the public has become optimistic with any change. However, teachers are both optimistic and skeptical. Their academic optimism consists of beliefs and practices along with a general construct composed of efficacy, trust, and academic emphasis (Woolfolk & Nan, 2008). Educators try new approaches in education for the improvement of all students. Their willingness to change their methods is an optimistic approach that a possible positive change is in sight for the benefit of their students; however, not all programs succeed.

Hunley and McNamara (2010) defined RtI as a school-based system designed to identify and meet students' needs through a tiered system focusing on more intensive levels of instruction, assessment, and intervention. Similarly, Taylor, Smiley, and Richards (2015) defined RtI as a way to identify a learning disability using new criteria

when a student does not adequately respond to scientific research-based intervention. Finally, Elliot (n.d.) described RtI as the practice of making decisions about goals and instructions as well as providing high-quality intervention based upon individual needs of the students and their responses to the intervention. Elliott also described the RtI process as a way of calculating student data in response to the intervention/instruction they are receiving. Lastly, it is another way to look beyond the failure of behavioral issues and actually expand mindsets to properly observe the students' risk of learning (Elliott, n.d.)

The RtI program provides a system to identify at-risk students earlier than the "wait-to-fail" model historically used in the special education identification process known as the IQ/Achievement measurement discrepancy model (Fuchs & Fuchs, 2006; Fuchs et al., 2008; Zvoch, 2016). In December 2014, the passage of the Individuals with Disabilities Education Improvement Act (IDEIA) allowed local education agencies to implement the RtI program as an approved approach for identifying children with learning disabilities. IDEIA provided educators a choice between the traditional IQ-achievement discrepancy model approaches and RtI as an alternative to the IQ-based approaches (Fletcher et al., 2002; Fuchs & Fuchs, 1998; Gresham, 2002; National Association of State Directors of Special Education [NASDSE], 2005).

Despite the opportunity provided by the RtI for identifying students at higher risk for a specific learning disability (SLD), considerable debate still exists around the better approach—RtI or IQ-based approaches—for identifying and working with children with SLD. Eligibility based decisions regarding the traditional IQ/achievement discrepancy has been an ongoing source of debate and controversy (Reschly & Ysseldyke, 2002).

22

While the IQ/achievement discrepancy approach has supporters, researchers question its

inherent measurement and conceptual problems. One of the criticisms largely discussed is

the ability to differentiate between poor readers with learning discrepancies and those

without (Lyon et al., 2001). Instructional decisions regarding poor readers with and

without discrepancies fail to inform instructional decisions based upon their response to

instruction and fail to inform individualized instructional decisions (Vaughn & Fuchs,

2003). Notably, the updated version of IDEA does not eliminate IQ/achievement

discrepancy, nor does it require it for identifying learning disabilities in students.

However, it allows the use of the RtI approach to identify SLD; it does not require school

districts to adopt the RtI approach (Gresham, VanDerHeyden, & Witt, 2005).

According to The National Association of State Directors of Education

(NASDSE), proponents of the use of RtI argue that:

> (1) RtI relies on early screening and identification, which leads to better
> intervention outcomes;
> (2) RtI employs empirically validated screening and progress monitoring
> procedures such as curriculum-based measurement (CBM), Dynamic
> Indicators of Basic Early Literacy Skills (DIBELS), Screening to Enhance
> Equitable Placement (STEEP), and AIMSWEB;
> (3) RtI employs assessment procedures that are directly linked to
> intervention;
> (4) RtI relies on evidence-based interventions for both younger and older
> children in areas such as reading fluency, reading comprehension,
> mathematics, and written expression;
> (5) RtI moves the field away from Refer-Test-Place logic to Refer-Assess-
> Intervene-Evaluate logic; and
> (6) RtI moves the field away from a highly questionable and highly
> inferential within-child explanation of learning difficulties. (National
> Association of State Directors of Special Education [NASDSE], 2005, p.1)

When evaluating the historical dilemma of how to properly teach children to read,

administrators realize that the "wait to fail" model is detrimental to the learning of these

students with possible learning disabilities (Davis et. al, 2007). Children in the first, second, and third grades who experience academic problems do not meet the guidelines for the IQ/achievement discrepancy necessary to qualify for services due to a learning disability (Speece, 2011). This is why the program is labeled a "wait to fail" model. The introduction of the RtI program offers a strong prescriptive method to identify learning gaps sooner and offer a way to monitor progress to evaluate the rate of growth for each student.

Successful educational practices such as RtI often stem from contemporary trends in public education, and RtI is based upon the current School Improvement Plan. The screening process for RtI consists of benchmark testing at predetermined times of the year followed up with progress monitoring assessments every two weeks to check for growth or gaps in the student's learning. The screening process for special education services needs to have more of a procedural checklist to prove necessity of the student referral to the referral team (Zvoch, 2016). The process needs to include documentation from the general education teacher, reading teacher, and information stating the data proving the student is not improving under the current education program. From a methodological perspective, the implementation process of the RtI design and analytical complexities that arise, pose a challenge to the extent of intervention used and whether its effectiveness improves the growth of struggling learners (Zvoch, 2016).

**The History of Assessment Frameworks**

RtI is designed to address specific learning gaps that need to be corrected for a

student. RtI incorporates a detailed process to obtain the explicit skills deficits, and then it

allows the student to exit the intervention process if he/she adequately responds to the

measurable intervention process (Buffman, Mattos, & Weber, 2009; DuFour, DuFour, &

Eaker, 2008; Fuchs & Fuchs, 2006). Over the past half-century, questions have been

raised about how to properly identify students with learning disabilities.

Historically, and as late as the 1800's, western civilization consisted of a

population that was roughly 50% illiterate (Samuelsson, et. al., 2008). The opportunity to

learn to read and write was a privilege due to the industry-based economy, and literacy

was socially accepted in urban areas and considered less important in the rural areas

(Houston, 1993). In 1850, the normal school was conceived, and a form of teacher

training was practiced. From 1900-1950, fewer than half of America's school teachers

had two years of training past high school (Flores, 2013). Limitations on early assessment

models and teacher training placed hardships on education during this timeframe.

The RtI program has been developing for several decades in the United States.

Hoover (2011) explained that in the early 1960's, separate educational settings were

needed to address disabilities. The students were removed from regular classrooms and

taught separately from other students. These students also received different curriculum

from the other students. In the late 1960's, this practice was questioned. Students were

still in a special, self-contained classroom and researchers began to worry that this

practice had not been fully researched began to question the outcomes. In the 1970's,

students with disabilities were reintegrated into the regular classroom and only removed

for short periods of time to work on their special educational needs. The special

classrooms were called Resource Rooms. In the mid 1970's, the United States decided to

begin programs to track student learning and used assessments to evaluate that learning.

These changes were based on the emergent emphasis on the obligation of public

education to teach all students to read and write to some degree; therefore, they had to

learn how to properly teach reading and assess it for the improvement of the US

education system and its children. One of the earliest formalized systems for assessing

disabilities occurred during the mid-1970's. The behavioral consultation (BC) model was

used to define student performance problems, identify possible contributing factors,

develop interventions targeting those issues, and measure the success of its interventions

(Kratochowill & Bergan, 1990). Many states adopted this model for its ability to clearly

assess the outcome of the lesson on an individual basis.

The collection of data from the BC method led to a technique known as the

Curriculum Based Measurement (CBM). The CBM method was developed by Deno and

Mirkin (1977). Hosp, Hosp, and Howell (2007) described the CBM method as teaching to

what is tested and testing on what is taught. The assessments were normally timed and,

they looked like the same work they had been given in class with different content.

Examples of the CBM method included the program Dynamic Indicators of Basic Early

Literacy Skills (DIBELS), and Academic Improvement Measurement System based on

the web (AIMSweb). A program called DIBELS provided leveled screening reading

assessments is (Brown-Chidsey, Bronaugh, & McGraw, 2009). DIBELS was a timed

reading assessment that measured the oral reading fluency rate of the student. AIMSWeb included a series of screening assessments in reading, written language, and math and is currently used in RtI for progress monitoring (Brown-Chidsey, Bronaugh, & McGraw, 2009).

AIMSWeb and DIBELS use a consistent method of monitoring and repoRtIng to administrators digitally and also provide a method for both prevention and intervention. Thus, it provides a systematic way for educators to actually use it to individualize instruction for the students on a regularly assessed basis. In the 2000's, collaboration became a more effective practice amongst the general education teacher and the resource teacher through the IDEIA law of 2004 (Hernandez, 2013). The student primarily stays in the regular classroom, but the regular classrooms have become differentiated instruction classrooms to accommodate all learning styles. Also, inclusion in the general education classroom is fully implemented, collaboration between teachers has improved, and tiered instruction has been introduced. The multi-tiered RtI model has replaced the pre-referral model for special education, and diverse needs are being met in the general education inclusive settings (Mitchell, 2013).

The CBM model has changed several times; it has positively contributed to the identification of learning disabilities and leads to the Skills-Based Measures (SBM) assessment program. Hunley and McNamara (2010) explained that the SBM process also tracks student performance over time using subskills to help them reach long-term goals. For example, in a first-grade classroom, a student may be required to count fluently and write numbers to 100, and they also must be able to understand how to group objects

according to a math problem before he/she may be able to properly begin the process of adding or subtracting numbers. According to Hunley and McNamara (2010):

> In recent years, there has been a shift in accountability in education which has encouraged the practice of RtI. The procedural accountability which focuses on the how well the school is doing has changed to focus more on the accountability of the students. There have been federal mandates to assure that all children attain satisfactory academic skills by using intervention skills to improve instruction for all children. These acts are known as The Elementary and Secondary Education Act (ESEA), that was reauthorized in 2001 and renamed No Child Left Behind Act (2002) (p.2).

**No Child Left Behind Act (2002-2015)/ESEA Law**

The No Child Left Behind Act (NCLB) governed student learning in every public school in the United States from 2002-2015 and focused on general education for grades K-12. It held schools accountable for how well students learned and their achievements. However, NCLB was controversial because if the school did not show improvement, the school was penalized. It also leveled the playing field for disadvantaged students including students in poverty, minorities, students receiving special education services, and those who spoke and understood limited or no English (Lee, n.d).

To measure academic progress for children in grades 3-8, NCLB required these students to take a yearly test in math and reading. Students in grades 9-12 were required to take the test one time within those four years. These testing requirements were inclusive of students in the special education program. All students were expected to score at a proficient level based on the adequate yearly progress (AYP), set forth by districts for targets of improvement. At the end of testing, schools received a report card from the state informing them of how they were doing. This information was then given to the parents. If the school did not meet the AYP requirements, they would be labeled as

"needing improvements." If a Title I school, a school with many low-income students,

did not meet AYP, the state could overhaul the school's leadership team or even close the

school (Lee, n.d). Parents also had the opportunity to move their child to a different

school to receive a better education. Children with disabilities who held an Individualized

Education Plan (IEP) and/or 504 plan often received disability accommodations in

school, so they were also given reasonable accommodations on statewide testing. Prior to

NCLB, many students who had learning and attention issues were excluded from taking

the state test which left a gap in assessment for these students, and expectations were not

set for them like other students in the general education program. After these students

were included in the testing, the graduation rate for students with learning disabilities

increased from 57 percent to 68 percent in 2011 (Lee, n.d).

Teachers had to meet new measures of knowledge under NCLB. Educators had to

be considered highly qualified in the subject area(s) they were teaching. The teachers

were required to use research-based instruction when teaching. The testing often placed

pressure on educators to perform resulting in pressure on teachers to "teach to the test"

and avoid responsibilities to teach state mandated curriculum and standards. The

statewide testing left little time for teachers to focus on what they needed to teach their

students. However, RtI was a functional, data-based, systematic way to begin focusing on

the student's needs and individual growth (Hunley & McNamara, 2010).

**RtI Framework**

The planning for the use of an RtI framework requires the selection of one of the

research-based assessment methods, and proper professional development must be

provided for educators, administrators, and other staff to make the plan successful for the students. As Seedorf (2014) explained, due to the paradigm shift in the framework of the entire school, professional development (PD) must be a constant focus throughout the year, not just on in-service days. Such PD should be cyclical to obtain the knowledge and the support needed for teachers using this new program. This constant focus on RtI helps (1) the consistency of data collection, (2) progress monitoring results, (3) techniques being used within the current program, and (4) the focus on vocabulary for all students involved. In the 2010's, the RtI model is known as a push-in/push-out intervention plan; this data-based decision plan reaches the student with an individualized plan of action to help move a child forward in his/her learning skills (Seedorf, 2014). The intervention teachers, coaches, and specialists use research-based curricula and evidence-based interventions in a multi-tiered structure known as RtI. The student is monitored every two weeks to assess the progress he/she made within that time-frame. If the child improves, he/she is moved into a less intensive tier to continue specific instruction for success. Importantly, the child should understand the goals being set for them and celebrate meeting those goals. The RtI framework also encourages educators to continuously set new goals for students, keep records to document achievement, and determent the next goal for the child (Seedorf, 2014).

After a student has been identified for RtI Intervention, a decision must be made as to whom will perform the intervention process. Normally this is also on a leveled system, and he/she is placed in one of the multi-tiered curriculum implementation plans. Level I, normally the general classroom teacher, decides the Tier I curriculum and

fidelity, how he/she will create a differentiated classroom, additional targeted areas to meet ongoing needs, and the procedures to screen/monitor the progress of the student. Level II, normally a general classroom teacher, implements targeted instruction to a small group of students (typically 3-6) on specific areas of instruction needed to fill a gap in reading so the student may progress to the next level of instruction. This instruction is research-based and tailored to meet the needs of each student in the group. Level III instruction, normally with a RtI reading specialist, also caters to a small group of students for up to 45 minutes per day. These students are removed from the classroom and instructed on reading skills to help them effectively fill gaps in skills that were not mastered in the current grade and/or the previous grade. These levels of instruction are critical to help the students become better reader at a faster pace.

**The Need for a Systematic Approach**

Transient students pose a challenge for the testing and tracking of individual progress. When students move into a school, it is vital to address their needs as soon as possible, and this is addressed through RtI benchmark testing on their first day of school. Testing provides the classroom teacher with some data on the student versus waiting on the student's previous school to transfer records which can take days or even weeks. Although the implementation of the process is strenuous, it is important due to time constraints and helps keep the program "student focused" during the RtI process (Samuels, 2006).

Table 1: Process with and without RtI Structure

| Step | School A: No RtI Structure | School B: With RtI Structure |
|---|---|---|
| 1 | The new student arrives in October. | The new student arrives in October. |
| 2 | Student is provided with a homeroom teacher, and assigned work that is expected of all the other children. | The student is screened as part of the enrollment process. |
| 3 | The new school waits for the student's records to be sent from previous school. | Screening results are reviewed with the students' parents |
| 4 | Teacher welcomes the child and continues with his lesson without knowing the child's strengths and weaknesses from an initial screener. | The student is assigned a homeroom teacher. |
| 5 | Teacher identifies a concern and requests assistance with the new student. | Screening indicates the student qualified for additional assistance in the RtI Reading Program |
| 6 | Three weeks later, pre-referral is initiated, | The student is given a placement test to determine instructional placement. |
| 7 | Pre-referral process is completed in December. | Student is placed in an intervention group which will help the child meet his instructional needs. |
| 8 | Student is recommended for evaluation for special education services. | Student is placed in the intervention group the same day he is enrolled. |
| 9 | Parental consent is obtained. | The student is provided with a student mentor to learn the school policies and the location of places on school grounds. |
| 10 | Evaluation is initiated at the end of January. | N/A |
| 11 | Evaluation is complete and IEP Meeting is held at the end of February. | N/A |
| 12 | Student was found ineligible for services, due to discrepancy requirements not met. | N/A |
| 13 | Student fails reading and math at the end of the year. | N/A |

(Adapted from Callender, 2014)

Callendar (2014) described a scenario of a child moving from one school to another in late October with no prerequisite data from his former school. Callendar gave an example of two schools, one without a RtI support structure in place (School A in first column of Table 1), and another school with an RtI support structure in place (School B in second column of Table 1). The significance of these comparative scenarios is that they show the academic difference for the student involved because the teacher is informed and can begin intervention for the child on the first day of school rather than waiting out the period of time to receive records from the child's previous school.

After reviewing the two scenarios provided above, the school with the RtI support structure in place, School B, was clearly the more efficient school. RtI is a practical program to help struggling students using a research-based approach (Callender, 2014). The RtI approach conserved time for the student's learning process, and it took the "guesswork" away from the teacher to avoid the pitfalls present for School A. School B provides an actual support system for students and teachers and through the use of RtI, prevents the child, his parents, and teachers from the worry and stress of the IEP meetings and unnecessary testing utilized during the Special Education referral/evaluation process. Fuchs and Deshler (2007) urged all districts, schools, and administrators to set expectations for the implementation of the RtI process. Schools that incorporate inclusion focus on meeting the academic needs of all students within the general education setting, providing direct academic core curriculum instruction and a rich social environment (Causton & Tracy-Bronson, 2014.) These expectations must also support the teacher by including proper PD for the implementation of RtI, providing

adequate resources, and supporting the use of procedures to ensure fidelity of intervention. The time efficient school improvement plan proves to be a success in the life of the new student and for all school personnel.

**Evaluation Models for RtI**

Multiple evaluation approaches to RtI exist based on the current literature (Berkeley et al., 2009). According to the literature, Martinez and Young (2011) suggested that upon evaluating how the RtI program works, all literature points to similarities of the program:

1) RtI first defines the problem the student is having in the learning process.

2) Then it evaluates the intervention strategies that will accommodate the student.

3) Intervention is then implemented for a specified period of time.

4) The students' progress is then evaluated and intervention is adjusted to meet the new goals of the student.

Completing this process can be difficult because of time constraints and lack of motivation among a group of teachers. Perception of the program plays a role within this process and resistance is often experienced. Thus, it is necessary to maintain the system of identifying problems, carefully plan research-based interventions, vigilantly evaluate the progress of students, and always set new, attainable goals. RtI also must focus on reliable sources for interventions that are easy to implement yet achieve the goal for the student to learn. However, the RtI process is likely to fail if the school does not diligently

work towards selecting, organizing, and delivering the interventions chosen by the school

(Daly, Martens, Barnett, Witt, & Olson, 2007).

Critically, an implemented RtI program must include three elements that highlight

the need for evaluation: "(1) frequent and continuous measurement using general

outcome measures, (2) research-based instruction within a tiered service delivery model,

(3) schoolwide organization principles to ensure the most effective instruction for each

student" (Gibbons, 2017, p.1). If any one of these elements is missing or not fully

implemented, then the results may be considered invalid resulting in lost learning time for

students. Using a risk perspective to conceptualize problems can benefit a student before

he/she falls too far behind in a general education classroom when the evidence-based

intervention is used to match the problem the student is having (Gresham, 1991).

RtI has demonstrated success in impacted student reading. Two examples of this

are noted below from the St. Croix River School Districts and the Chicago Lakes School

District:

> The St. Croix River districts have been collecting general outcome
> measurement data (AIMSweb or DIBELS) in basic skill areas since 1996.
> In reading, student performance is evaluated three times per year on
> simple, one-minute timed reading passages. The percentage of students
> reaching benchmark target scores has increased significantly over the past
> decade from 35 percent to 70 percent. In the Chicago Lakes School
> District 2144 in Lindstrom, Minn., the percentage of 2nd grade students
> reaching benchmark target scores has increased from 38 percent to 82
> percent over the past decade. (Gibbons, 2017 p.1).

Everyone involved in the RtI process must perform his/her job effectively

and maintain records that help place the child in a learning situation which is both

effective for his/her learning process and where future gaps can possibly be

avoided. In most systems, RtI data and information play a role in the

implementation of special education services and the development of an IEP. This

is used to determine an educational plan of action for the students in need of

significant instructional guidance in a specified area of learning.

**RtI Program Design**

Reading strategies are commonly taught in a whole group setting in kindergarten,

first grade, and second grade, and with the support of the RtI program, these grades,

along with grades 3-12, have also added small group instruction on a daily basis for

students showing some lack of understanding (Hunley & McNamara, 2010).

The beginning stages of reading begin with a strategy known as *phonemic*

*awareness.* Phonemic awareness basically teaches the child that all letters have sounds,

and those sounds can be used to form words and eventually sentences:

> Phonemic awareness refers to the specific ability to focus on and
> manipulate individual sounds (phonemes) in spoken words. Phonemes are
> the smallest units comprising spoken language. Phonemes combine to
> form syllables and words. For example, the word 'mat' has three
> phonemes: /m/ /a/ /t/. There are 44 phonemes in the English language,
> including sounds represented by letter combinations such as /th/.
> Acquiring phonemic awareness is important because it is the foundation
> for spelling and word recognition skills. Phonemic awareness is one of the
> best predictors of how well children will learn to read during the first two
> years of school instruction (Phonological and Phonemic Awareness, 2016,
> p.1).

Phonological awareness is a method used prior to phonics to teach children how

to read. As defined by the National Reading Panel (2000), phonemics is the ability to

focus on and manipulate phonemes in spoken words. Sitzmann, Hightree, Moritz, and

Elton (n.d) suggested that phonological awareness is the ability to hear the sounds in each

word. If a child lacks the ability to hear the sounds in each word, then the student struggles with phonological awareness. If a child struggles with phonological awareness, he/she does not have the skills to understand and use phonics skills. Phonological awareness addresses the oral part of reading. The skills should follow a continuum of learning:

1. Listening skills

2. Rhyme and alliteration

3. Word segmentation

4. Sentence segmentation

5. Syllables

6. Onset and rimes

7. Blending phonemes

RtI addresses the phonological needs of each child on an individual level. The students are placed in small ability-based learning groups to attack the reading skills they are struggling with. Every two weeks, the child undergoes progress monitoring. The data team meets to determine new goals for each child; some children progress into a higher level on the continuum and others remain for another two weeks to receive further instruction until that skill is mastered. If that skill is not mastered, the child will be considered for special education testing to determine if a learning disability exists. This process is more in depth than the IQ discrepancy model, and it is also focused on the skill level and progress of each child.

**Interventions**

   Interventions are a crucial piece of the RtI puzzle regarding individual students in

with gaps in the learning process. An objective of this process is matching the student's

needs to the best intervention strategy. During this process, an educator must observe the

behavior of the student and continue to monitor progress and rate of progress through

progress monitoring data. If the student is not making progress, then the educator must

evaluate the data and use that knowledge to properly modify the intervention or

determine a new intervention path altogether. Regular whole-group instruction should

still take place in the classroom using general education curriculum (Hunley &

McNamara, 2010). Intervention instruction does not take the place of regular instruction;

however, student intervention strategies should always be research-based and easy to

implement.

   The frequency of the intervention must be considered along with the intensity of

the intervention. Keeping the emphasis on closing gaps, all intervention should

supplement instruction in the general education classroom (Sitzmann, et. al, n.d).

Additionally, student intervention strategies should be implemented according to the plan

set forth by administration and the RtI team. As an example, Sitzmann, Hightree, Moritz,

& Elton (n.d.) illustrate, "if an intervention is implemented for ten minutes, three times

per week, it is considered less intensive than that same intervention being implemented

every day for thirty minutes" (p.11). This factor must be considered when determining

what might be most beneficial for the student in their intervention process. Table 2

emphasizes the importance of frequencies of interventions and why they must be

considered on a case by case basis (Sitzmann, Hightree, Moritz, & Elton, n.d.,).

Table 2: Interventions

| |
|---|
| **Criteria for each level of intervention** – Interventions in each level will exist on a continuum, meaning there is variability in the duration and frequency for each level. The below descriptions are meant to serve as guidelines, as schools will define their own measures. Generally speaking, interventions could be described/implemented as the following: |
| **Least Intensive** – a supplemental intervention provided in addition to general instruction, typically provided in a small group setting. Frequency would vary between three to five times a week for approximately 5 to 15 minutes.  This intervention may be administered by the classroom teacher, parent, paraprofessional or peer. |
| **Moderately Intensive** – a supplemental intervention provided outside the general education classroom, which typically occurs in a small group or on an individual basis. Additionally, one may increase the duration and/or frequency of the intervention previously in place. The interventions will likely occur approximately three to five times a week for approximately 15 to 30 minutes. Additionally, a moderately intensive intervention could be a purchased program. |
| **Most Intensive** – a supplemental intervention that may be a prescribed purchased program. It is typically administered every day for at least twenty to sixty minutes. This should be administered in a one-on-one setting with personnel who are trained to administer the intervention. |

(Sitzmann, B. H., Hightree, B., & Moritz, L., n.d.*, pp. 11-12*)

**Summary**

In closing, RtI is a paradigm shift that benefits all students. It has been widely

adopted across the United States, and it provides a system to identify "at risk" students

earlier than the prior system, or, "wait-to fail" model. Before RtI, students who had

possible learning disabilities were referred for special education testing without properly

documented intervention strategies for this referral. RtI provides the proper interventions

to help close learning gaps before a referral can be made. RtI also provides an efficient method for meeting the needs of students in their stage of learning. For example, if a new student comes enters a school and is given the benchmark assessment for RtI, the student is able to immediately begin the intervention process and not waste time waiting for information and data from his/her previous school. This immediate data on the first day of school gives the teacher the specific information he/she needs to move forward without the wait of records from the previous school. Fidelity is important in the RtI program because it ensures that each step of the process is being fulfilled and no gaps are left unfilled. If one step of the process is not completed, then the program will fail. Interventions must be research based, easily performed, and completed in the time allotted. Proper documentation is also crucial for the fidelity of the intervention process. Progress monitoring must be completed every two weeks, and intervention strategies must be adjusted to meet the new educational needs of each student.

  The paradigm shift in education that has taken place with the RtI program has proven to be effective, but how do teachers feel about the process? Do they feel that they have been properly and continuously trained throughout this paradigm shift? How do new teachers feel about the training they have received? This study focuses on these issues and reports its findings. The methods by which these questions are addressed are presented in Chapter III.

**CHAPTER III**

**METHODOLOGY**

**Introduction**

In a small suburban school district located in the southeastern United States, there is a PreK to fourth grade school of 650 students that has been in existence over one-half century. This school has been operating for over 50 years and has implemented many different programs to increase reading proficiency. The current program is RtI, which is a three-tiered program that uses data collected from benchmark assessments and progress monitoring. The RtI process is routinely implemented and its design is heavily dependent upon the teachers. The purpose of this research is to develop and implement a tool for capturing teacher perceptions of the effectiveness of the RtI program.

In a K-4 school, the experience of teachers varies greatly within the culture of the school. Some teachers have many years of teaching experience while others have very little experience. Within this small school, approximately 12% of teachers have five years of teaching experience or less, and 88% of teachers have more than five years of teaching experience. Although significant evidence regarding the effectiveness of RtI exists, there is little investigation into teacher perceptions about RtI during its early phases of implementation. This descriptive correlational study is designed to use survey data to assess teacher perceptions of the impact of the RtI program in the elementary classroom. The researcher designs a survey tool to quantitatively measure the perceptions of teachers in regards to the challenges and effectiveness of RtI. Using this information, the survey evaluates the perceptions of RtI currently being used in the school. This study compares

the views of veteran teachers and new teachers to encourage comparison as another form of evaluation of the RtI program. The educators at this school have varying perceptions of the RtI program, but they have yet to be formally documented. This study researches the following questions:

1. How do teachers in a rural school perceive the effectiveness of the RtI program early in its implementation?

    a. What relationship exists between teacher perceptions of RtI effectiveness and the age of the educator?

    H0: There is no difference in perceptions of RtI of teachers based on the age of the educator

    H1: There is a difference in perceptions of RtI of teachers based on the age of the educator

    b. What relationship exists between teacher perceptions of RtI effectiveness and the number of reading programs utilized?

    H0: There is no difference in perceptions of RtI of teachers based on the number of programs utilized

    H1: There is a difference in perceptions of RtI of teachers based on the number of programs utilized

    c. What relationship exists between teacher perceptions of RtI effectiveness and the level training that the educator has received?

    H0: There is no difference in perceptions of RtI of teachers based on the level of training

H1: There is a difference in perceptions of RtI of teachers based on the level of training

2. Is there a statistically significant difference in the perceptions of RtI on the teachers based on their length of time as an educator?

> H0: There is no difference in perceptions of RtI of teachers based on length of time as an educator
>
> H1: There is a difference in perceptions of RtI of teachers based on length of time as an educator

3. Does the perception of the RtI program differ among educators depending on their faculty position in the school?

> a. Are there differences in perception of RtI based on grade level taught?
>
> > H0: There are no differences in perception of RtI based on grade level taught
> >
> > H1: There are differences in perception of RtI based on grade level taught
>
> b. Are there differences in perception of RtI based on position (lead teacher, support, administration, etc)?
>
> > H0: There are no differences in perception of RtI based on position
> >
> > H1: There are differences in perception of RtI based on position

**Research Design and Procedures**

    **Participants.**

This study takes place in a middle school setting at a school in southeastern

Tennessee. In spring 2018, general and special educators as well as administrators and

related personnel in a small rural school in the Southeastern United States are asked to

take part in a survey querying them about the RtI process and their perception of the

program. The survey is sent to administrators within the school. The administrators

commit to collect completed surveys from all faculty and staff who are involved in RtI

during a grade level meeting. Educators are given an envelope in which to seal the survey

to ensure complete confidentiality. A total of 45 educators take the survey. Due to the

small scale, the researcher requires 100% participation. See Table 3 for teacher

population characteristics.

Table 3: Teacher Population

| Grade Level | Teachers with 5 years of experience or less | Teachers with 5 years of experience or more | TOTAL |
|---|---|---|---|
| Pre-Kindergarten | 1 | 4 | 5 |
| Kindergarten | 0 | 6 | 6 |
| First Grade | 2 | 5 | 7 |
| Second Grade | 0 | 6 | 6 |
| Third Grade | 2 | 4 | 6 |
| Fourth Grade | 0 | 6 | 6 |
| Special Education | 1 | 2 | 3 |
| Art/Music/Support Staff | 1 | 2 | 3 |
| Speech/Language Department | 0 | 3 | 3 |
| TOTAL | 7 | 38 | 45 |

The faculty positions included in this study are general education teachers in grades Pre-K-4th grade; related arts teachers including music teachers and art teachers; and support teachers including special education teachers, interventionists and academic coaches/advisors. Each group is classified according to faculty position, years in position, and level of education using the information provided on the teaching background of the survey. The issues being displayed at this school are the mixed perceptions of the teachers regarding the RTI process and the effect those perceptions have on their teaching. While this has been observed by members of the school, it has not been systematically captured. A survey is constructed and piloted to collect data needed for the investigation into teacher perceptions of the RtI implementation. The development of the survey is guided by the research questions and associated analysis provided in Table 4.

Table 4: Research Questions

| Research Question | Data Collection | Sample | Analysis |
|---|---|---|---|
| 1. How do teachers in a rural school perceive the effectiveness of the RtI program early in its implementation? | Survey: Likert scaled perception questions | Teachers | Descriptive Statistics; Correlation |
| 2. Is there a statistically significant difference in the perceptions of RtI on the teachers based on their length of time as an educator? | Survey: Teaching background questions | Teachers | Independent Samples T-Test |
| 3. Does the perception of the RtI program differ among educators depending on their faculty position in the school? | Survey: School position and role in RTI questions | Teachers | ANOVA |

**Research Methodology**

This study examines teacher perceptions in a descriptive correlational study to collect information about the participants and describe the phenomenon of teacher perception of RtI, but it does not seek to influence these perceptions. Correlational research is interested in the relationship between two variables. First, descriptive statistics for all variables are provided. This study employs correlation to understand the relationship between select perceptions of RtI and teacher characteristics in a small school district focusing on grades K-4. Additionally, teachers are categorized as novice/experienced (fewer than five years teaching) or veteran (five or more years teaching), and their perceptions of RtI are compared using an independent samples t-test. Finally, analysis of variance (ANOVA) is used to compare perceptions by position held relative to the implementation of RtI.

The evaluation tool used to collect data needed for these analyses is a self-administered paper survey evaluating the varying perceptions of the RtI program. This survey instrument is guided by the research questions and includes questions proposed by the school administrator, questions adapted from a published study of RtI, and questions about the participants' demographics. The relationship between perceptions and years teaching is assessed by the recommendation of the school administrator. The administrator at the school requires newer teachers to serve three years as novice teachers while they receive mentorship. Consequently, for the purposes of this study, three years of service is the demarcation line between novice teachers and experienced teachers. These two groups are herein referred to as *novice* and *experienced*, respectively.

**Population and Sample**

This study evaluates the perception of teachers involved with the RtI process within the K-4 School. The program evaluation involves a survey of all teachers, administration, and paraprofessionals involved with the RtI process. The target response of the program evaluation is 100% participation and solicits response from all RtI team members. Within this population, five out of 45 teachers have taught for five years or fewer. Thirty-eight of the 45 teachers have five years of experience or more. This program evaluation reaches to everyone in the organization. It will be distributed relatively evenly throughout grades K-4. Correlation matrices are developed to assess the relationship between teacher demographics, such as how long they have been teaching, and the perceptions of the selected RtI factors.

**Pilot Study and Instrumentation**

The survey instrument is designed by the researcher with guidance and input from school administration. Rankin (1992) recommended expert review of data collection instruments. The instrument is also informed by literature on the teacher's role in interventions and RtI. Specifically, questions are adapted from Martinez and Young (2011). The first draft of the instrument consists of nine questions collecting demographic and teaching background data and 11 questions collecting data on perceptions of RtI. In all, the instrument draws from four sources:

1) Expert input from administrator at K-4 school

2) RTI Survey developed by Martinez and Young (2011)

3) Extant review of RtI literature

4) Demographic questions adapted from U.S. Census.

The survey instrument is validated using two important steps: expert review and pilot testing. First, the researcher establishes face validity (Collingridge, 2016). Content experts, herein school administrators working to implement RtI, examine the instrument and affirm that the items within it adequately represent the constructs and are likely to meaningfully differentiate between scores. These experts review the survey, offer suggestions for refinement, and once revisions are made by the researcher, they are asked to screen the improved instrument again. At this point, a psychometrician examines the instrument to confirm its validity and ensure the instrument is following best practices in survey development, such as not having double-barreled or leading questions (Collingridge, 2016). Second, the survey is piloted to a small group of middle school teachers in the case school district to assess internal validity and reliability. Teachers are asked to provide feedback on the questions and formatting of the survey. The pilot data and comments are entered into an Excel spreadsheet. In all, the researcher receives 45 comments on the survey instrument. The researcher uses the feedback from the Pilot Study to refine the final survey instrument and one question is removed while others are re-stated. The survey developed by the researcher has been checked for reliability and validity only in the context of an elementary school setting and thus should not be used, without modification and rechecking for validity/reliability in other contexts.

The instrument is designed to assess internal consistency through the correlation of two selected questions. Using SPSS, Pearson's Product-Moment correlation coefficient for these two questions in the survey data is statistically significant ($r = 0.072$,

$p < 0.05$) Then, the consistency of select questions is determined using Cronbach's Alpha

(CA) (Collingridge, 2016). These results indicate that moderate consistency at alpha of

0.652.

The final step of the pilot study is revision of the instrument based on the analysis

of the feedback documented through the piloting phase. At this stage, questions are

deleted or analyzed separately to improve the survey (Collingridge, 2016). Table 5 notes

the feedback received by question and the changes made to the instrument based on the

feedback. The revised instrument is again reviewed by the case school administrators and

no additional changes are determined to be required.

Table 5: Pilot Study Feedback

| Question Topic | Feedback Received From | Actual Feedback Received | Changes Made Based on Feedback |
|---|---|---|---|
| 1. # of years teaching | None | None | No Action Taken |
| 2. # of years teaching at current school | None | None | No Action Taken |
| 3. Highest Level of Education | Administration & Lead Teacher | 1. Add: Ed.S 2. Add: MA/MS 3. Have option to choose two items. | Researcher: 1. Added: Ed.S 2. Added: MA/MS |
| 4. What grade do you currently teach? | Lead Teacher | 1.Add Middle School Grade-levels 2.Add all levels in school | 1. Researcher added all grades in the school. |

Table 5 cont.

| Question Topic | Feedback Received From | Actual Feedback Received | Changes Made Based on Feedback |
|---|---|---|---|
| 6. Gender? | Lead Teacher | 1. Why do I need to know gender? | 1. Researcher removed this from survey. Irrelevant and might jeopardize anonymity. |
| 7. Year of Birth? | Administration | 1.Why do you have to know year born? | 1. No action taken. |
| 8. What intervention programs, other than RtI, have you implemented? | Lead Teacher | 1. Add: Morning/Afternoon Tutoring as Intervention Program | 1. Researcher added Morning and Afternoon tutoring as an Intervention Program |
| 9. Where were you trained on how to provide instruction to struggling students?(check all that apply) | Lead Teacher | 1. Received training through this school but not enough training was received. 2) No training received | No Action Taken |
| 10. Confidence in providing RtI | None | None | No Action Taken |
| 11.Confidence in understanding AIMSWeb universal screener? | None | None | No Action Taken |
| 12. Confidence in using results from screening tools vs. what you see in the student progress in the classroom. | None | None | No Action Taken |
| 13. Do you feel RtI benefits students and their educational goals? | None | None | No Action Taken |
| 14. Do you feel RtI takes up to much time? | Lead Teacher | Change the question to read: Do you feel RtI is to time consuming? | 1. Researcher changed the question to read: Do you feel RtI is to time consuming? |

Table 5 cont.

| Question Topic | Feedback Received From | Actual Feedback Received | Changes Made Based on Feedback |
|---|---|---|---|
| 15. Do you feel RtI benefits the literacy of students? | Lead Teacher | Change the question to read: Do you feel RtI benefits students' literacy? | Researcher changed the question to read: Do you feel RtI benefits students' literacy? |
| 16. Do you feel students were better served prior to the implementation of the RtI model? | None | Two people did not answer this question. | No Action Taken |
| 17. Do you feel collecting data required to monitor process is difficult? | Lead Teacher | Change the question to: Do you feel the data collecting process through progress monitoring is difficult? | Researcher changed the question to: Do you feel the data collecting process through progress monitoring is difficult? |
| 18. Do you feel educators learn a lot about their students through RtI? | None | None | No Action Taken |
| 19. Do you feel the RtI Process improves parental involvement? | Lead Teacher | 1. This question is similar to #20. | No Action Taken |
| 20. Do you feel the parent involvement enhances the RtI process? | None | 1. Two people did not answer this question. | No Action Taken |

**Data Collection Procedures**

As indicated in Figure 2, after the piloting phase, the survey is submitted for IRB

approval, and once approved, administered at the case school. The request for IRB

approval is accompanied by a letter of approval from the administrator of the K-4 school. Next, the research data is collected in the case school during grade level meetings.

In this first step of data collection, the researcher sends an email to everyone involved in the survey encouraging them to attend the meeting and explaining the purpose of the survey. The email also provides information on informed consent (see Appendix A). At the grade level meetings, paper surveys are distributed and self-administered.

Participants are also given an envelope in which to seal their survey to help ensure complete confidentiality, and participants are identified only by a randomly assigned respondent ID. During the grade-level meeting, each participant is required to sign an attendance sheet to document participation in the study. This signature, however, cannot be traced to an individual's response, only to their completion of the survey instrument. Anyone who is absent from the meeting, as determined by the signature sheet, is asked to complete the survey and return it within one week of the faculty meeting date to a specified envelope with the researcher. After all names are checked off the participant list, the researcher opens the envelopes and enters information into an Excel spreadsheet. This process is done with one person reading the results aloud and the researcher typing the results into the spreadsheet. Then the roles reverse to check for human error. Once this process is complete, the data are uploaded to the SPSS system for analysis.
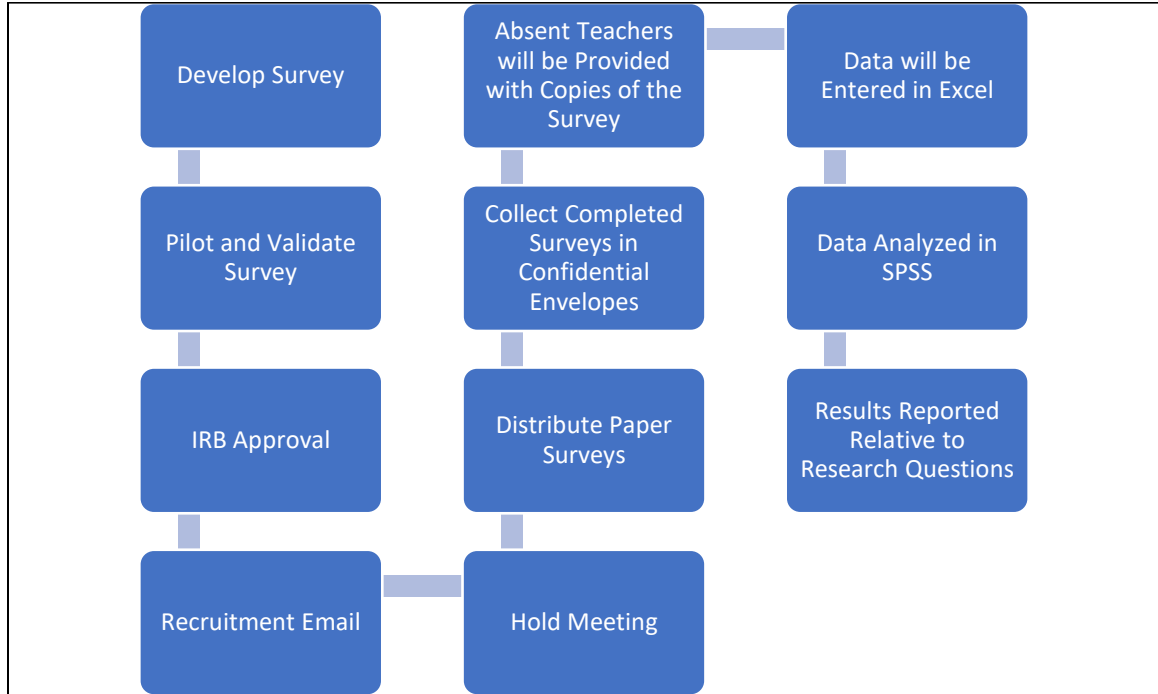
Figure 2: Research Process

## Data Analysis Procedures

Using SPSS 24, descriptive statistics are computed and reported for all variables using mean and standard deviation for continuous variables and mode for categorical variables. Frequencies are provided for all variables. Correlation matrices are developed to assess the relationship between teacher demographics, such as how long they have been teaching, and the perceptions of the selected RtI factors. An independent sample t-test is used to determine if a meaningful difference exists in the perceptions of the teachers based on their length of time as an educator when years of teaching experience are grouped as less than five years and more than five years. ANOVA is used to determine if perceptions of RtI differ among educators based on their position in the school.

**Summary**

The chapter begins with an introduction to the research study. The problem of the study is that the perception of RtI among novice teachers and veteran teachers in a K-4 school in southern middle Tennessee is unknown. However, advancing knowledge of these perceptions can improve implementation of the program. As such, this research addresses the perception of the effectiveness of the RtI program and how perception differs among educators depending on the faculty position in the school. This descriptive correlational study includes the development of a survey instrument, piloting of the instrument, and implementation of the instrument in the case school. The survey instrument is developed to provide the necessary research data for this descriptive correlational study. This survey is a qualitative self-administered survey of the teachers within a small school implementing and designing a program for RtI. The survey is presented in paper format, and no identifying information links the survey to the participant. All teachers involved in RtI at the school are invited to participate in the study and asked to complete a self-administered paper survey during grade level meetings. The data is manually entered into an Excel spreadsheet and uploaded into SPSS for analysis, including descriptive statistics and correlational analysis.

**CHAPTER IV**

**RESULTS**

**Introduction**

The objective for this study was to explore perceptions of the effectiveness of the RtI program in an elementary school setting. The researcher theorized that the current use of RtI could be useful for some students yet possibly detrimental to the progress of other students. To this effect, a survey was conducted to collect data on the perceptions of teachers implementing RtI in an elementary school in Middle Tennessee. Within this chapter, the data from this survey was analyzed to answer the research questions:

1.  How do teachers in a rural school perceive the effectiveness of the RtI program early in its implementation?

    1a. What relationship exists between teacher perceptions of RtI effectiveness and the age of the educator?

    1b. What relationship exists between teacher perceptions of RtI effectiveness and the number of reading programs utilized?

    1c. What relationship exists between teacher perceptions of RtI effectiveness and the level training that the educator has received?

2.  Is there a statistically significant difference in the perceptions of RtI on the teachers based on their length of time as an educator?

3.  Does the perception of the RtI program differ among educators depending on their faculty position in the school?

    3a. Are there differences in perception of RtI based on grade level taught?

3b. Are there differences in perception of RtI based on position (lead

teacher, support, administration, etc)?

SPSS 24 was used to analyze the survey data. First, descriptive statistics were

provided for all 19 survey questions. Next, correlation matrices were developed for

assessing the relationship between all continuous variables. The significance of these

correlations was used to address the first research question. Then, an independent sample

t-tests was used to determine if there is a statistically significant difference in perceptions

of RtI between teachers based on if they have been teaching less than five years or five

years or more. The significance of the t-tests was used to address the second research

question. Finally, one-way ANOVA was used to determine the influence of position in

the school on RtI perceptions and address the third research questions. The results

presented in this chapter are further discussed in Chapter V.

Throughout this chapter, survey instrument question numbers are used to refer to

specific variables for reporting of analysis results. The following code provides variables

for each of the survey instrument questions. Moreover, the survey instrument can be

found in Appendix C.

Q1: Years teaching, including current school year

Q2: Years teaching at current school, including current school year

Q3: Highest level of education

Q4: Current grade level taught

Q5: Current position

Q6: Year of birth

Q7: Number of intervention programs implemented by respondent

Q8: Intervention training received

Q9: Confidence in providing small group intervention to students identified as Tier 2

Q10: Confidence in understanding of AIMSWeb university screening tool

Q11: Confidence in screening tools' results compared to how respondent sees students' progress in the classroom

Q12: Perception that RtI benefits students' educational goals

Q13: Perception that RtI is too time consuming

Q14: Perception that RtI benefits students' literacy

Q15: Perception that students are better served prior to the RtI model

Q16: Perception that RtI data collection is difficult

Q17: Perception that educators learn a lot about their students through RtI

Q18: Perception that RtI improves parental involvement

Q19: Perception that parental involvement enhances RtI

**Descriptive Statistics**

The survey received 45 responses in all. This accounted for 100% of the responses solicited at the case school. As the researcher was also a teacher at the case school, personal contact was made with the other teachers to encourage responses. However, all responses were submitted in sealed envelopes to remain anonymous and ensure that the personal relationships held by the researcher did not influence responses and introduce bias.

On average, the respondents taught 15.5 years with a range from one to 32 years (see Table 6). However, the mean time teaching at the case school was 10.4 with a range from one to 30 years. Respondent ages ranged from 19 to 64.

Table 6.1: Descriptive Statistics for Continuous Variables

| Variable | N | Range | Mean | Std Dev |
|---|---|---|---|---|
| Years Teaching (Total) | 45 | 1:32 | 15.51 | 9.457 |
| Years Teaching (Current School) | 45 | 1:30 | 10.40 | 8.437 |
| Birth year | 45 | 1954-1999 | 1974.87 | 11.429 |

84% of the respondents had at least a Bachelor's degree (Table 6.2). About one-third of the respondents taught all grades in their current position, with the remainder of respondents teaching a single grade between kindergarten and fourth grade. A strong majority (71%) of respondents were teachers, with 4.4% serving as administrators and 13.3% as teacher supports. About a quarter of respondents (26.7%) reported having implemented other reading intervention programs in the past, but most (71.1%) had only implemented RtI. Finally, a strong majority (86.7%) reported receiving training on reading intervention programs in college, but many also reported receiving training at another school through professional development (22.2%) or at the case school through professional development (38.9%).

Table 6.2 Descriptive Statistics for Categorical Variables

| Variable | Group | N | % |
|---|---|---|---|
| Education | High School Diploma | 6 | 13.3 |
| | Associate's Degree | 1 | 2.2 |
| | BA/BS | 13 | 28.9 |
| | MA/MS | 18 | 30.0 |
| | EdD | 2 | 4.4 |
| Education | EdS | 5 | 11.1 |
| Grade Level Taught | K | 7 | 15.6 |
| | 1 | 7 | 15.6 |
| | 2 | 6 | 15.3 |
| | 3 | 3 | 6.7 |
| | 4 | 6 | 13.3 |
| | K-4 | 16 | 35.6 |
| Position | Teacher Support | 6 | 13.3 |
| | Teacher | 32 | 71.1 |
| | Teacher and RTI Teacher | 1 | 2.2 |
| | RTI/SPED | 1 | 2.2 |
| | RTI Teacher | 3 | 6.7 |
| | Administrator | 2 | 4.4 |
| Programs | None (only RTI) | 32 | 71.1 |
| | Other Programs | 12 | 26.7 |
| | Title I Programs | 1 | 2.2 |
| Training[1] | College | 39 | 86.7 |
| | Another School through PD | 10 | 22.2 |
| | This School through PD | 22 | 38.9 |
| | None of the Above | 4 | 8.9 |

In questions nine through 19, respondents provided perceptions of RtI at the case

school. As provided in Table 6.1, each statement received at least one low (i.e., "not

confident at all" for Q9-Q11 or "never" for Q12-Q19) and one high (i.e., "completely

confident" for Q9-Q11 or "always" for Q12-Q19). The statement with the highest mean

was "How confident do you feel in providing small group intervention to students

identified as needing Tier 2 instruction?" (herein RtI- Confidence in Providing Small

[1] Categories are not mutually exclusive.

Group Instruction), with a mean response of 4.0 which indicated that respondents, on

average, were confident in their ability to implement RtI (Table 6.3). However,

respondents were less confident in their ability to use AIMSWeb ($M = 3.42$) and

screening tools ($M = 2.80$). The statement with the lowest mean was "Do you feel the

RTI process improves parental involvement?" (herein Improves Parental Involvement),

which had a mean of 2.2 indicating respondents perceive that RtI rarely improves

parental involvement.

Table 6.3: Respondent Perceptions of RtI

| Variable | N | Range | Mean[2] | Std Dev |
|---|---|---|---|---|
| RtI- Confidence in Providing Small Group Instruction | 45 | 1:5 | 4.00 | 1.066 |
| RtI- Confidence in AIMSWeb | 45 | 1:5 | 3.42 | 1.422 |
| RtI- Confidence in Screening Tools | 45 | 1:5 | 2.80 | 1.217 |
| Benefits Educational Goals | 45 | 2:5 | 3.62 | .936 |
| Time Consuming | 45 | 1:5 | 2.78 | 1.085 |
| Benefits Literacy | 45 | 1:5 | 3.69 | 1.041 |
| Better Served before RtI | 45 | 1:5 | 2.74 | 1.271 |
| Monitoring Data is Difficult | 45 | 1:5 | 2.72 | 1.066 |
| Educators Learn about Students | 45 | 1:5 | 3.62 | 1.093 |
| Improves Parental Involvement | 45 | 1:5 | 2.20 | 1.014 |
| Parental Involvement Enhances Process | 45 | 1:5 | 2.57 | 1.218 |

**Results by Research Question**

**1. How do teachers in a rural school perceive the effectiveness of the RtI**

**program early in its implementation?**

---

[2] RtI confidence questions were asked on a scale from 1= "not confident at all" to 5="completely confident." The following eight statements were asked on a scale from 1=never to 5=always.

Regarding perceptions of RtI, respondents were asked about both their confidence in their own abilities and the effectiveness of the programs. Q9-Q11 asked about the respondent's confidence in implementing RtI, AIMSWeb, and reliability of screening tools. On average for these three statements, respondents were moderately confident ($M = 3.41$). For Q12-Q19, the average response was "sometimes," with a mean of the eight statements falling at 3.00. However, considerable variation occurred in the responses (standard deviation = 1.175). Respondents, for instance, were much more optimistic about the frequency at which RtI benefits educational goals ($M = 3.62$), benefits literacy ($M = 3.69$), and helps educators learn about their students (M = 3.62), than the ability of RtI to improve parental involvement ($M = 2.20$) or for parental involvement to improve RtI ($M = 2.57$).

**1a. What relationship exists between teacher perceptions of RtI effectiveness and the age of the educator?**

H0: There is no difference in perceptions of RtI of teachers based on the age of the educator

H1: There is a difference in perceptions of RtI of teachers based on the age of the educator

Pearson's product-moment correlation was used to assess the relationship between perceptions of RtI effectiveness and the age of the educator. Age was operationalized through survey question six as year of birth. Questions 9-19 assessed perceptions of confidence and effectiveness. The correlation matrix (Table 6.4) indicated that age, overall, was not significant, but in assessing individual statements, age was

negatively correlated to confidence in the screening tools' results compared to how the

respondents saw their students' progress in the classroom ($r(43) = -0.391$, $p < 0.01$), how

the RtI process improved parental involvement ($r(43) = -0.406$, $p < 0.01$), and how

parental involvement enhanced the RtI process ($r(43) = -0.524$, $p < 0.01$). For these three

statements, the older the respondent, the less confident they were that RtI measures

translated to performance in the classroom, the less likely they were to think RtI

improved parental involvement, and the less likely they were to think RtI benefited from

parental involvement. For the majority of statements, the null hypothesis failed to be

rejected with exceptions being statements Q11, Q18, and Q19.

Table 6.4: Correlation Matrix

| | | Q6 | Q9 | Q10 | Q11 | Q12 | Q13 | Q14 | Q15 | Q16 | Q17 | Q18 | Q19 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Q6 | Pearson Correlation | 1 | −.256 | −.139 | −.391** | −.132 | .082 | −.172 | −.073 | .205 | −.131 | −.406** | −.543** |
| | Sig. (2–tailed) | | .090 | .362 | .008 | .387 | .593 | .259 | .647 | .182 | .389 | .006 | .000 |
| | N | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 42 | 44 | 45 | 45 | 44 |
| Q9 | Pearson Correlation | −.256 | 1 | .495** | .315* | .159 | −.275 | .164 | −.077 | −.191 | .098 | .210 | .101 |
| | Sig. (2–tailed) | .090 | | .001 | .035 | .296 | .067 | .282 | .628 | .215 | .524 | .165 | .513 |
| | N | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 42 | 44 | 45 | 45 | 44 |
| Q10 | Pearson Correlation | −.139 | .495** | 1 | .404** | .123 | .033 | −.047 | .227 | −.290 | −.173 | .161 | .127 |
| | Sig. (2–tailed) | .362 | .001 | | .006 | .423 | .831 | .757 | .149 | .056 | .256 | .291 | .410 |
| | N | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 42 | 44 | 45 | 45 | 44 |
| Q11 | Pearson Correlation | −.391** | .315* | .404** | 1 | .371* | −.155 | .344* | −.125 | −.076 | .232 | .199 | .289 |
| | Sig. (2–tailed) | .008 | .035 | .006 | | .012 | .310 | .020 | .429 | .624 | .125 | .190 | .057 |
| | N | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 42 | 44 | 45 | 45 | 44 |
| Q12 | Pearson Correlation | −.132 | .159 | .123 | .371* | 1 | −.733** | .833** | −.610** | −.257 | .746** | .632** | .456** |
| | Sig. (2–tailed) | .387 | .296 | .423 | .012 | | .000 | .000 | .000 | .093 | .000 | .000 | .002 |
| | N | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 42 | 44 | 45 | 45 | 44 |
| Q13 | Pearson Correlation | .082 | −.275 | .033 | −.155 | −.733** | 1 | −.647** | .597** | .282 | −.647** | −.496** | −.241 |
| | Sig. (2–tailed) | .593 | .067 | .831 | .310 | .000 | | .000 | .000 | .063 | .000 | .001 | .114 |
| | N | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 42 | 44 | 45 | 45 | 44 |
| Q14 | Pearson Correlation | −.172 | .164 | −.047 | .344* | .833** | −.647** | 1 | −.541** | −.257 | .793** | .578** | .396** |
| | Sig. (2–tailed) | .259 | .282 | .757 | .020 | .000 | .000 | | .000 | .092 | .000 | .000 | .008 |
| | N | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 42 | 44 | 45 | 45 | 44 |
| Q15 | Pearson Correlation | −.073 | −.077 | .227 | −.125 | −.610** | .597** | −.541** | 1 | −.053 | −.647** | −.264 | −.092 |
| | Sig. (2–tailed) | .647 | .628 | .149 | .429 | .000 | .000 | .000 | | .739 | .000 | .091 | .562 |
| | N | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 |
| Q16 | Pearson Correlation | .205 | −.191 | −.290 | −.076 | −.257 | .282 | −.257 | −.053 | 1 | −.140 | −.331* | −.066 |
| | Sig. (2–tailed) | .182 | .215 | .056 | .624 | .093 | .063 | .092 | .739 | | .364 | .028 | .674 |
| | N | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 42 | 44 | 44 | 44 | 43 |
| Q17 | Pearson Correlation | −.131 | .098 | −.173 | .232 | .746** | −.647** | .793** | −.647** | −.140 | 1 | .521** | .363* |
| | Sig. (2–tailed) | .389 | .524 | .256 | .125 | .000 | .000 | .000 | .000 | .364 | | .000 | .016 |
| | N | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 42 | 44 | 45 | 45 | 44 |
| Q18 | Pearson Correlation | −.406** | .210 | .161 | .199 | .632** | −.496** | .578** | −.264 | −.331* | .521** | 1 | .677** |
| | Sig. (2–tailed) | .006 | .165 | .291 | .190 | .000 | .001 | .000 | .091 | .028 | .000 | | .000 |
| | N | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 42 | 44 | 45 | 45 | 44 |
| Q19 | Pearson Correlation | −.543** | .101 | .127 | .289 | .456** | −.241 | .396** | −.092 | −.066 | .363* | .677** | 1 |
| | Sig. (2–tailed) | .000 | .513 | .410 | .057 | .002 | .114 | .008 | .562 | .674 | .016 | .000 | |
| | N | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 42 | 43 | 44 | 44 | 44 |

**. Correlation is significant at the 0.01 level (2–tailed).

**1b. What relationship exists between teacher perceptions of RtI effectiveness and the number of reading programs utilized?**

H0: There is no difference in perceptions of RtI of teachers based on the number of programs utilized

H1: There is a difference in perceptions of RtI of teachers based on the number of programs utilized

To address this question, the number of programs utilized by the respondents were tallied (Q7). Thirteen respondents indicated utilization of programs other than RtI. However, no statistically significant correlation was found between the number of programs the respondent was familiar with and his/her perception of RtI ($r(45) = 0.208$, $p > 0.05$). Based on these results, the null hypothesis failed to be rejected for all perception statements.

**1c. What relationship exists between teacher perceptions of RtI effectiveness and the level training that the educator has received?**

H0: There is no difference in perceptions of RtI of teachers based on the level of training

H1: There is a difference in perceptions of RtI of teachers based on the level of training

To address this question, the number of ways in which the respondent has been trained in RtI (none = 0) was tallied and correlated Q9-Q19 as measures of perceptions of RtI. Using Pearson's product-moment correlation, level of training positive correlated to confident that RtI benefits student literacy ($r(43) = .328$, $p < 0.05$), which indicated that more training increased perceptions of the benefits regarding student literacy. Based on these results, the null hypothesis was rejected. However, one statement was found to be statistically significant (Q14).

**2. Is there a statistically significant difference in the perceptions of RtI on the teachers based on their length of time as an educator?**

H0: There is no difference in perceptions of RtI of teachers based on length of

time as an educator

H1: There is a difference in perceptions of RtI of teachers based on length of

time as an educator

Of the respondents, only six were educators for fewer than five years. However,

the independent samples t-test revealed statistically significant differences in the

responses of those with less than five years of experience and those with five or more

years' experience for Q10 (How confident are you in your understanding of the

AIMSWeb universal screening tool?), Q11 (How confident are you in the screening

tools' results as compared to how you see your students' progress in the classroom?), and

Q15 (Do you feel students were better served prior to the implementation of the RTI

model?). Based on the results on this t-test (Table 6.5), areas of perception were limited

in which the number of years the participant had been an educator was a factor in his/her

perception of RtI. Specifically, there was a significant difference in the scores for Q10,

$t(44) = -6.25$, $p < 0.001$; Q11 $t(44) = -4.47$, $p = 0.002$; and Q15, $t(44) = -2.57$, $p = 0.42$.

Based on these results, the null hypothesis failed to be rejected for Q9, Q12-Q14, and

Q16-Q19, the null hypothesis was rejected for Q10, Q11, and Q15.

Table 6.5: Independent Sample T-Test Results

| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Lower | Upper |
| Q9 | Equal variances assumed | .661 | .421 | -1.242 | 43 | .221 | -.577 | .465 | -1.514 | .360 |
| | Equal variances not assumed | | | -1.095 | 6.151 | .314 | -.577 | .527 | -1.858 | .704 |
| Q10 | Equal variances assumed | 1.704 | .199 | -4.701 | 43 | .000 | -2.410 | .513 | -3.444 | -1.376 |
| | Equal variances not assumed | | | -6.254 | 8.802 | .000 | -2.410 | .385 | -3.285 | -1.535 |
| Q11 | Equal variances assumed | 1.626 | .209 | -3.568 | 43 | .001 | -1.692 | .474 | -2.649 | -.736 |
| | Equal variances not assumed | | | -4.478 | 8.172 | .002 | -1.692 | .378 | -2.561 | -.824 |
| Q12 | Equal variances assumed | 3.727 | .060 | .123 | 43 | .902 | .051 | .415 | -.786 | .889 |
| | Equal variances not assumed | | | .194 | 11.756 | .849 | .051 | .264 | -.525 | .627 |
| Q13 | Equal variances assumed | .043 | .837 | -1.503 | 43 | .140 | -.705 | .469 | -1.651 | .241 |
| | Equal variances not assumed | | | -1.393 | 6.320 | .211 | -.705 | .506 | -1.929 | .519 |
| Q14 | Equal variances assumed | 1.515 | .225 | .783 | 43 | .438 | .359 | .458 | -.565 | 1.283 |
| | Equal variances not assumed | | | .891 | 7.365 | .401 | .359 | .403 | -.584 | 1.302 |
| Q15 | Equal variances assumed | .858 | .360 | -2.104 | 40 | .042 | -1.065 | .506 | -2.088 | -.042 |
| | Equal variances not assumed | | | -2.569 | 5.987 | .042 | -1.065 | .414 | -2.080 | -.050 |
| Q16 | Equal variances assumed | 5.160 | .028 | 1.634 | 42 | .110 | .759 | .465 | -.179 | 1.697 |
| | Equal variances not assumed | | | 1.094 | 4.371 | .330 | .759 | .693 | -1.104 | 2.622 |
| Q17 | Equal variances assumed | 1.306 | .259 | 1.751 | 43 | .087 | .821 | .468 | -.124 | 1.765 |
| | Equal variances not assumed | | | 2.178 | 8.082 | .061 | .821 | .377 | -.047 | 1.688 |
| Q18 | Equal variances assumed | .081 | .777 | -.086 | 43 | .932 | -.038 | .450 | -.945 | .868 |
| | Equal variances not assumed | | | -.076 | 6.190 | .942 | -.038 | .504 | -1.262 | 1.185 |
| Q19 | Equal variances assumed | .009 | .923 | -1.291 | 42 | .204 | -.658 | .510 | -1.687 | .371 |
| | Equal variances not assumed | | | -1.354 | 6.929 | .218 | -.658 | .486 | -1.809 | .493 |

**3. Does the perception of the RtI program differ among educators depending on their faculty position in the school?**

*3a. Are there differences in perception of RtI based on grade level taught?*

H0: There are no differences in perception of RtI based on grade level taught

H1: There are differences in perception of RtI based on grade level taught

To address this question and test these hypotheses, one-way ANOVA was used to assess the influence of grade level taught. There was not a significant effect for grade level taught on Q9 ($F(5,39) = 0.513$, $p = 0.765$), on Q10 ($F(5,39) = 1.832$, $p = 0.129$), on Q11 ($F(5,39) = 0.539$, $p = 0.745$), on Q12 ($F(5,39) = 1.934$, $p = 0.111$), on Q16 ($F(5,39) = 0.291$, $p = 0.915$), or on Q19 ($F(5,39) = 1.918$, $p = 0.113$). However, there was a significant effect for grade level taught on Q13 ($F(5,39) = 3.635$, $p = 0.009$), on Q14 ($F(5,39) = 2.771$, $p = 0.031$), Q15 ($F(5,39) = 4.163$, $p = 0.004$), and on Q17 ($F(5,39) = 3.267$, $p = 0.015$), as well as a marginal effect for Q18 ($F(5,39) = 2.431$, $p = 0.052$). These results are provided in Table 6.6. Based on these results, the null hypothesis was rejected for Q13-Q15, Q17, and Q18 and the null hypothesis failed to be rejected for Q9-Q12, Q16, and Q19. To control for the experimentwise error rate, Bonferroni Correction was used as post-hoc test for the significant statements. In the post-hoc test, no relationships were significant at the 0.05 level. The Bonferroni results are provided in Appendix D where "0" represents kindergarten, first through fourth grade are represented by their corresponding numeral, and "5" represents teachers who taught RtI to multiple grades.

Table 6.6: One-Way ANOVA Results for Grade Level Taught

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Q9 | Between Groups | 3.086 | 5 | .617 | .513 | .765 |
| | Within Groups | 46.914 | 39 | 1.203 | | |
| | Total | 50.000 | 44 | | | |
| Q10 | Between Groups | 16.921 | 5 | 3.384 | 1.832 | .129 |
| | Within Groups | 72.057 | 39 | 1.848 | | |
| | Total | 88.978 | 44 | | | |
| Q11 | Between Groups | 4.215 | 5 | .843 | .539 | .745 |
| | Within Groups | 60.985 | 39 | 1.564 | | |
| | Total | 65.200 | 44 | | | |
| Q12 | Between Groups | 7.664 | 5 | 1.533 | 1.934 | .111 |
| | Within Groups | 30.914 | 39 | .793 | | |
| | Total | 38.578 | 44 | | | |
| Q13 | Between Groups | 16.459 | 5 | 3.292 | 3.635 | .009 |
| | Within Groups | 35.318 | 39 | .906 | | |
| | Total | 51.778 | 44 | | | |
| Q14 | Between Groups | 12.490 | 5 | 2.498 | 2.771 | .031 |
| | Within Groups | 35.155 | 39 | .901 | | |
| | Total | 47.644 | 44 | | | |
| Q15 | Between Groups | 24.745 | 5 | 4.949 | 4.163 | .004 |
| | Within Groups | 46.366 | 39 | 1.189 | | |
| | Total | 71.111 | 44 | | | |
| Q16 | Between Groups | 1.801 | 5 | .360 | .291 | .915 |
| | Within Groups | 48.199 | 39 | 1.236 | | |
| | Total | 50.000 | 44 | | | |
| Q17 | Between Groups | 15.521 | 5 | 3.104 | 3.267 | .015 |
| | Within Groups | 37.057 | 39 | .950 | | |
| | Total | 52.578 | 44 | | | |
| Q18 | Between Groups | 10.739 | 5 | 2.148 | 2.431 | .052 |
| | Within Groups | 34.461 | 39 | .884 | | |
| | Total | 45.200 | 44 | | | |
| Q19 | Between Groups | 12.878 | 5 | 2.576 | 1.918 | .113 |
| | Within Groups | 52.366 | 39 | 1.343 | | |
| | Total | 65.244 | 44 | | | |

*3b. Are there differences in perception of RtI based on position (lead teacher, support, administration, etc)?*

H0: There are no differences in perception of RtI based on position

H1: There are differences in perception of RtI based on position

To address this question and test these hypotheses, one-way ANOVA was used to assess the influence of position within the school on perceptions of RtI. Regarding position within the school, there were more responses in which there was a statistically significant effect. However, there was not a statistically significant effect for position within the school relative to Q9 ($F(4,40) = 1.841$, $p = 0.140$), Q12 ($F(4,40) = 1.723$, $p = 0.164$), Q14 ($F(4,40) = 2.264$, $p = 0.079$), Q16 ($F(4,40) = 0.550$, $p = 0.700$), and Q19 ($F(4,40) = 1.905$, $p = 0.128$), Moreover, there was a significant effect for position in the school on Q10 ($F(4,40) = 9.048$, $p = 0.000$), Q11 ($F(4,40) = 3.302$, $p = 0.020$), Q13 ($F(4,40) = 2.984$, $p = 0.030$), Q15 ($F(4,40) = 3.084$, $p = 0.026$), Q17 ($F(4,40) = 3.908$, $p = 0.009$), and Q18 ($F(4,40) = 3.148$, $p = 0.024$). These results are provided in Table 6.7. Based on these results, null hypothesis was rejected for Q10, Q11, Q13, Q15, Q17, and Q18, but the null hypothesis failed to be rejected for Q9, Q12, Q14, Q16, and Q19. To control for the experimentwise error rate, Bonferroni Correction was used as post-hoc test for the significant statements. The Bonferroni results are provided in Appendix E: "1" is Administrator, "2" is RtI Teacher, "3" is RTI/SPED Teacher, and "4" is Classroom Teacher. According to the Bonferroni post hoc test, a significance difference in responses existed to Q13 between RtI Teachers and Classroom Teachers ($p = 0.029$), to Q17

between RtI Teachers and Classroom Teachers ($p = 0.028$), and to Q18 between RtI

Teachers and Classroom Teachers ($p = 0.009$).

Table 6.7: One-Way ANOVA Results for Position within the School

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Q9 | Between Groups | 7.773 | 4 | 1.943 | 1.841 | .140 |
| | Within Groups | 42.227 | 40 | 1.056 | | |
| | Total | 50.000 | 44 | | | |
| Q10 | Between Groups | 42.266 | 4 | 10.566 | 9.048 | .000 |
| | Within Groups | 46.712 | 40 | 1.168 | | |
| | Total | 88.978 | 44 | | | |
| Q11 | Between Groups | 16.185 | 4 | 4.046 | 3.302 | .020 |
| | Within Groups | 49.015 | 40 | 1.225 | | |
| | Total | 65.200 | 44 | | | |
| Q12 | Between Groups | 5.669 | 4 | 1.417 | 1.723 | .164 |
| | Within Groups | 32.909 | 40 | .823 | | |
| | Total | 38.578 | 44 | | | |
| Q13 | Between Groups | 11.899 | 4 | 2.975 | 2.984 | .030 |
| | Within Groups | 39.879 | 40 | .997 | | |
| | Total | 51.778 | 44 | | | |
| Q14 | Between Groups | 8.796 | 4 | 2.199 | 2.264 | .079 |
| | Within Groups | 38.848 | 40 | .971 | | |
| | Total | 47.644 | 44 | | | |
| Q15 | Between Groups | 16.763 | 4 | 4.191 | 3.084 | .026 |
| | Within Groups | 54.348 | 40 | 1.359 | | |
| | Total | 71.111 | 44 | | | |
| Q16 | Between Groups | 2.606 | 4 | .652 | .550 | .700 |
| | Within Groups | 47.394 | 40 | 1.185 | | |
| | Total | 50.000 | 44 | | | |
| Q17 | Between Groups | 14.775 | 4 | 3.694 | 3.908 | .009 |
| | Within Groups | 37.803 | 40 | .945 | | |
| | Total | 52.578 | 44 | | | |
| Q18 | Between Groups | 10.821 | 4 | 2.705 | 3.148 | .024 |
| | Within Groups | 34.379 | 40 | .859 | | |
| | Total | 45.200 | 44 | | | |
| Q19 | Between Groups | 10.441 | 4 | 2.610 | 1.905 | .128 |
| | Within Groups | 54.803 | 40 | 1.370 | | |
| | Total | 65.244 | 44 | | | |

**Summary**

The results presented in this chapter provided insight into the experiences and perceptions of teachers in a rural school. In Chapter 5, these results are used to discuss the strengths and weaknesses of the current program, teacher perceptions of current practices, and barriers to implementation.

Specifically, several factors were concluded to be statistically significant. A negative relationship was found between confidence in the screening tools' results compared to how the respondents saw their students' progress in the classroom, how the RtI process improved parental involvement, and how parental involvement enhanced the RtI process. No statistically significant correlation was found between the number of programs the respondent was familiar with and his/her perception of RtI. The level of training positively correlated to confident that RtI benefited student literacy, which indicated that more training increased perceptions of the benefits regarding student literacy.

A difference was uncovered in the responses of respondents with fewer than five-years of teaching experience and those with five or more years of experience for "How confident are you in your understanding of the AIMSWeb universal screening tool?," "How confident are you in the screening tools' results as compared to how you see your students' progress in the classroom?," and "Do you feel students were better served prior to the implementation of the RTI model?"

Grade level taught had a significant impact on responses to perception that RtI was too time consuming, perception that RtI benefited students' literacy, perception that

students were better served prior to the RtI model, and perception that educators learned much about their students through RtI, as well as a marginal effect on perception that RtI improved parental involvement.

There was also a significant effect regarding position in the school for responses to confidence in understanding of AIMSWeb university screening tool which were as follows: confidence in screening tools' results compared to how respondent saw students' progress in the classroom, perception that RtI is too time consuming, perception that students were better served prior to the RtI model, perception that educators learned much about their students through RtI, and perception that RtI improved parental involvement.

**Chapter V**

**CONCLUSION**

**Introduction**

RtI is a three-tiered program that uses data collected from benchmark assessments and progress monitoring (Fuchs, et al, 2008). The purpose of this study is to assess teacher perceptions of RtI implementation and benefits. Tier I includes all children and indicates a student is at reading level. Tier II includes children who show minor gaps in their abilities in reading, and they require specific intervention to help them close the learning gaps. Tier III includes children who require extensive instruction to fill significant gaps in the student's learning process. The level of intervention to be used is based upon the specific learning needs for each child. If growth is not achieved after a certain amount of time, then the child can be referred for further testing in the special education program to determine the possibility of a learning disability. The general education teacher acts as an RtI instructor. Understanding the perception of a teacher in this process is important to ensure complete understanding of the program implemented and depended upon within the school. This study is intended to assess the perceptions of the teachers implementing this program is the case elementary school located in Middle Tennessee. If these perceptions are better known, they can be incorporated into the RtI training, used to improve the programing, and potentially provide insight into the program.

To meet the objectives of this study, the researcher designs a survey tool to quantitatively measure the perceptions of teachers in regards to the challenges and

effectiveness of RtI. The researcher pilots the survey at another school that also implements RtI in the same school district for the purpose of confirming reliability and validity before formally implemented the survey at the case school for data collection. Teachers at the pilot school take the survey and then participate in a focus group to provide further feedback for reliability. The data from this pilot study is assessed for consistency using Cronbach's alpha ($r = 0.072$, $p < 0.05$). The survey instrument is designed to evaluate the perceptions of RtI currently being used in the school along with the individual level characteristics that impact these perceptions, such as years teaching, grade level taught, and experience with other reading programs. For instance, this study reflects perceptions about the program and provides information about how the teachers respond to the implementation of the RtI program based upon the level of professional development received as a novice teacher versus the level of college preparation received in the teacher education program for beginning teachers. After revisions are made based on the pilot survey (see Appendix B) as described in Chapter III, the survey instrument for this investigation (see Appendix C) is implemented at the case elementary school.

The objective for the current study is to explore perceptions of the effectiveness of the RtI program in an elementary school setting. The researcher's empirical observation of the program implementation at the case school is that the current use of RtI could be understood and welcomed by some teachers and other teachers may have a hard time understanding why this program is necessary. To this effect, a survey is conducted to collect data on the perceptions of teachers implementing RtI in an

elementary school in Middle Tennessee. Within this chapter, the data presented in

Chapter IV are analyzed to discuss the research questions:

1.   How do teachers in a rural school perceive the effectiveness of the RtI

program early in its implementation?

1a. What relationship exists between teacher perceptions of RtI

effectiveness and the age of the educator?

1b. What relationship exists between teacher perceptions of RtI

effectiveness and the number of reading programs utilized?

1c. What relationship exists between teacher perceptions of RtI

effectiveness and the level training that the educator has received?

2.  Is there a statistically significant difference in the perceptions of RtI on the

teachers based on their length of time as an educator?

3.  Does the perception of the RtI program differ among educators depending on

their faculty position in the school?

3a. Are there differences in perception of RtI based on grade level taught?

3b. Are there differences in perception of RtI based on position (lead

teacher, support, administration, etc)?

**Summary of Findings**

This study used an elementary school which services grades K-4 with RtI. The

results presented in this chapter provide insight into the experiences and perceptions of

teachers in a rural school. These results are used to discuss the strengths and weaknesses

of the current program, teacher perceptions of current practices, and barriers to

implementation.

Table 7: Results by Survey Question

| Question #'s According to SurveyTopic(s) | Results |
|---|---|
| 11. Confidence in using results from screening tools vs. what you see in the student progress in the classroom, <br><br> Compared to <br><br> 10.Confidence in understanding AIMSWeb universal screener? <br><br> and <br><br> 18. Do you feel the RtI Process improves parental involvement? <br><br> and <br><br> 19. Do you feel the parent involvement enhances the RtI process? | Negative Relationships |
| 7.What intervention programs, other than RtI, have you implemented? | No statistically significance in their perception of RtI |
| 8. Where were you trained on how to provide instruction to struggling students?(check all that apply) | Positive Correlation to confident RtI benefits student literacy, which indicates more training increases perception of the benefits regarding student literacy |
| 2. Number of years teaching at current school <br> 10.Confidence in understanding AIMSWeb universal screener? <br> 11. Confidence in using results from screening tools vs. what you see in the student progress in the classroom. <br><br> and <br><br> 15. Do you feel students were better served prior to the implementation of the RtI model? | Differences in the responses of those with five or more years of experience and those with five or more years of experience |
| 10.Confidence in understanding AIMSWeb universal screener? <br> 11. Confidence in using results from screening tools vs. what you see in the student progress in the classroom. <br> 13. Do you feel RtI takes up to much time? <br> 15. Do you feel students were better served prior to the implementation of the RtI model? | There was a significant effect for the position held in the school. In other words, the data show differences in how participants perceived certain aspects of RtI based on their position within the school. |

| Question #'s According to SurveyTopic(s) | Results |
|---|---|
| 17. Do you feel educators learn a lot about their students through RtI?<br>18. Do you feel the RtI Process improves parental involvement? | There was a significant effect for the position held in the school. In other words, the data show differences in how participants perceived certain aspects of RtI based on their position within the school. |
| 13. Do you feel RtI takes up to much time?<br>14. Do you feel RtI benefits the literacy of students?<br>15. Do you feel students were better served prior to the implementation of the RtI model?<br>17. Do you feel educators learn a lot about their students through RtI?<br>18. Do you feel the RtI Process improves parental involvement? (marginal effect for this one) | There was a significant effect for the grade level taught to these questions with only a marginal effect for question 18. The data shows differences in how participants perceived certain aspects of RtI based on the grade level taught. |

The following factors are concluded to be statistically significant as noted in Table 7. A negative relationship exists between confidence in the screening tools' results compared to how the respondents see their students' progress in the classroom, how the RtI process improves parental involvement, and how parental involvement enhances the RtI process. No statistically significant correlation has been discovered between the number of programs the respondent is familiar with and his/her perception of RtI. The level of training positively correlated to confident that RtI benefits student literacy, which indicates that more training increases perceptions of the benefits regarding student literacy. A difference is uncovered in the responses of those with fewer than five years of

teaching experience and those with five or more years of experience for "How confident are you in your understanding of the AIMS Web universal screening tool?," "How confident are you in the screening tools' results as compared to how you see your students' progress in the classroom?," and "Do you feel students were better served prior to the implementation of the RTI model?" Grade level taught significantly impacts responses to, "Do you feel RtI takes up to much time?", "Do you feel RtI benefits the literacy of students?", "Do you feel students were better served prior to the implementation of the RtI model?", "Do you feel educators learn a lot about their students through RtI?" And finally, a marginal effect exists in the responses to "Do you feel the RtI Process improves parental involvement?"

In other words, the data show differences in how participants perceive certain aspects of RtI based on the grade level taught. Position in the school significantly effected responses to the following questions: "Confidence in understanding AIMSWeb universal screener?", "Confidence in using results from screening tools vs. what you see in the student progress in the classroom.", "Do you feel RtI takes up to much time?", "Do you feel students were better served prior to the implementation of the RtI model?", "Do you feel educators learn a lot about their students through RtI?", and "Do you feel the RtI Process improves parental involvement?"

**Discussion**

The survey determines several findings. The first one is that a negative relationship occurs between confidence in the screening tools' results compared to how the respondents see their students' progress in the classroom, how the RtI process

improves parental involvement, and how parental involvement enhances the RtI process. Zvoch (2016) addressed this from a methodological perspective by observing the implementation process of the RtI design and analytical complexities that arise and pose a challenge to the extent of intervention used and whether its effectiveness improves the growth of struggling learners. This includes a perception of the RtI program and whether it is understood and accepted by teachers and parents. This research adds that differences were found in how the program is perceived, but not all teachers are confident in its effectiveness. Perhaps some of the areas in which the survey respondents report a lack of confidence in the program are related to analytical complexities observed by Zvoch (2016).

The next finding shows that no statistically significant correlation occurs between the number of programs the respondent is familiar with and his/her perception of RtI. Teachers' academic optimism consists of beliefs and practices along with a general construct composed of efficacy, trust, and academic emphasis (Woolfolk & Nan, May 2008). The academic optimism that was expressed by the sample for RtI was expected to be related to the number of different programs used by the participants. Experienced teachers have tried many programs and have seen many programs come and go. Despite these past experiences, the perception of RtI did not change based upon past programs respondents were familiar with. However, a positive correlation was found between the level of training to confident that RtI benefits student literacy, which indicates that more training increases perceptions of the benefits regarding student literacy. Continuous professional development provided during the school year may be beneficial to maintain

the training desired by the RtI teachers. As Seedorf (2014) explained, RtI is a paradigm shift in the framework of the entire school; thus, professional development (PD) must be a constant focus throughout the school year, not only on in-service days. Therefore, the findings of this study align with the observations of Seedorf (2014), and the PD related to RtI has been concluded to be positive indicator of favorable perceptions of the program. Seedorf (2014) also expressed the importance of cyclical PD to offer assistance to teachers throughout the year and help them obtain the support needed to implement this program correctly. If this PD support system is put in place, then the RtI program improves in the consistency of data collection, progress monitoring results, techniques used within the current program, and the focus on vocabulary for all students involved. The study also shows a difference in perceptions among teachers with fewer than five years of experience compared to teachers with more than five years of experience. The cyclical professional development opportunities may help close the generational gap within the school setting as well.

**Implications for Practice**

This study seeks to determine teacher perception of the RtI process in an elementary school. The results of this study provide information to administrators and teachers that can help improve the current implementation of RtI through improved training. The positive correlation between training and favorable perceptions of the program indicates that more training increases perceptions of the benefits regarding student literacy. Cyclical professional development improves the understanding of assessment, data collection, and proper adjustment of instruction based upon individual

student data; and it provides constant support throughout the school year which helps teachers who have been teaching for five years or less or five or more years (Seedorf, 2014). This opportunity encourages more collaboration between the teachers and the administrators on the subject of RtI. This also encourages teachers to work together and learn to discuss data in a safe environment where everyone can collaboratively share ideas to help students. Parental involvement is also a missing piece in the current practice. More family intervention offer the motivation and support at home and encourage the child to become a better reader. These steps must be taken to provide an instructional learning environment for students and educators with the focus being on what is best for each individual child. Finally, more collaboration is needed in this area, and cyclical professional development should allow more time for conversations between the teachers and administrators to keep expectations and goals for the teachers on a clearer path for instruction and data analysis.

**Limitations**

The primary limitation for this study is the sample size. This study was performed in a K-4 elementary school which limited the number of participants available to participate in this study. Although the response rate was high within the case school, the results were not able to be generalized because of the data being collected within a single school. The survey was administered at the end the year and is thus limited to post-implementation perceptions. Finally, the survey was administered at a school in its second year of RtI adoption, which may limit the results the educators could be expected

to have responded differently in their first year or would likely answer differently in their third year.

**Recommendations for Research**

This research assesses educator perceptions of the RtI program for the purpose of making recommendations for improving the program and ultimately the education attainable in reading levels of students within the case elementary school. Moreover, the research is also performed to make recommendations for future research on elementary research programs, such as RtI. Four recommendations for research can be drawn for this research. First, the research conducted within this study should be expanded to more schools to obtain a larger sample of perceptions. The sample size within this study is within a small school system, and an expansion to other K-4 schools would provide more information. Second, questions could be added to the survey to inquire about the research-based curricula being used across grade levels. This recommendation is based in the finding that training improved confidence in RtI, but experience with other programs had no effect. Thus, a follow-up question would regard how the training component of RtI differs from training in other programs. Third, the addition of a qualitative component to the survey would have provided additional depth to the responses to the survey. Finally, this research should also be expanded longitudinally across grade levels at the case school to build upon school improvement. As the case school is in its second year of administered RtI, responses are expected to vary over time, but without empirical data, the direction of support cannot be known. Additionally, future research is recommended

to evaluate what impact, if any, the recommended increased PD for RtI has on the

support for the program.

## Conclusions

As a result of the findings of this study several conclusions are made, and this

survey reveals some improvements to be made and some positive aspects of the current

program. The first finding reveals a negative relationship between the confidence in the

screening tools compared to the teachers' analysis of the progress the student is making

in the classroom. RtI is a data tool which should be used widely in an intervention

program. Teachers must also remember the personal aspect of the learning process as

well. Using data to guide instruction is a change for the teachers, but with adequate and

cyclical professional development, it should prove to be an asset in the lives of the

student. Parental involvement is another weak point which needs to be addressed.

Involving parents in the process of reading will help close the learning gap between home

and school, and it will possibly help the child to learn to enjoy reading earlier in life.

This research produced numerous statistically significant findings from the survey

of elementary school educators in a case school in Middle Tennessee. Within this

chapter, these findings are presented, discussed in the context of the literature, and used

to provided implications for practice and recommendations for research. Although the

research is not without limitations, it has contributed to the literature on perceptions of

RtI, developed an instrument for collecting data on these perceptions, and provided

insight into the perceptions of educators implementing RtI. Perhaps most practically

meaningful among the findings and implications is the role of PD in confidence in the program. Cyclical professional development provided within this school should help to teachers across grade levels understand and implement the same data calculation. Professional development should include topics such as how to read data from AIMSWeb and how to use that data in the classroom effectively.

**REFERENCES**

Armbruster, B. B., Lehr, F., & Osborn, J. (n.d.). *Put reading first: Kindergarten through grade 3* [PDF document]. Retrieved from https://lincs.ed.gov/publications/pdf/PRFbooklet.pdf

Barrio, B. L., & Combes, B. H. (2015). General education pre-service teachers' levels of concern on response to intervention (RTI) implementation. *Teacher Education and Special Education*, *38*(2), 121-137.

Bandura, A., Adams, N. E., & Beyer, J. (1977). Cognitive processes mediating behavioral change. *Journal of Personality and Social Psychology*, *35*(3), 125-139. doi:10.1037/0022-3514.35.3.125.

Berkeley, S., Bender, W.N., Peaster, L.G., & Saunders, L. (2009). Implementation of response to intervention: A snapshot of progress. *Journal of Learning Disabilities*, *42*(1), 85-95.

Brown-Chidsey, R., Bronaugh, L., & McGraw, K. (2009). *RTI in the classroom: Guidelines and recipes for success*. New York: Guilford Press

Brownell, M. T., Sindelar, P. T., Kiely, M. T., & Danielson, L. C. (2010). Special education teacher quality and preparation: Exposing foundations, constructing a new model. *Exceptional Children*, *76*(3), 357-377.

Buffman, A., Mattos, M., & Weber, C (2009). *Pyramid response to intervention: RTI, professional learning communities, and how to respond when kids don't learn.* Bloomington, IN: Solution Tree Press.

Burns, M.K., Symington, T (2002). A meta-analysis of prereferral intervention teams: Student and systemic outcomes. *Journal of School Psychology*, *40*, 437-447.

Callender, W. A. (2014). *Using RTI in secondary schools: a training manual for successful implementation*. Thousand Oaks, CA: Corwin, a SAGE Company.

Causton, J., & Tracy-Bronson, C. (2014). *The occupational therapist's handbook for inclusive school practices*. Baltimore, MD: Brookes Publishing.

Collingridge, D. (2016, December 8). Validating a Questionnaire. Retrieved from http://www.methodspace.com/validating-a-questionnaire/

Correlational Research: Definition, Purpose & Examples. (n.d.). Retrieved from https://study.com/academy/lesson/correlational-research-definition-purpose-examples.html Instructor : Devin Kowalczyk.

Daly III, E.J., Martens, B.K., Barnett, D., Witt, J.C., & Olson, S.C. (2007). Varying intervention delivery in response to intervention: Confronting and resolving challenges with measurement, instruction, and intensity. *School Psychology Review*, *36*(4), 562-581.

Davis, G. N., Lindo, E. J., & Compton, D. L. (2007). Children at risk for reading failure: constructing an early screening measure. *Teaching Exceptional Children*, *39*(5), 32-37.

DeLorenzo, J. P. *Individuals with Disabilities Education Act (IDEA) Part B Final Supplemental Regulations Issued December 1, 2008 and Effective December 31, 2008 – Non-Regulatory Guidance*. (2009, May). Retrieved from http://www.p12.nysed.gov/specialed/idea/nonregulatoryguidancememo.htm

Deno, S. L., & Mirkin, P. (1977). *Data-based program modification: A manual*. Reston, VA: Council for Exceptional Children.

Dubé, F., Granger, N., & Dufour, F. (2015). Continuing education for high school resource teachers and their sense of self-efficacy. *American Journal of Educational Research*, *3*(6), 707-712. doi:10.12691/education-3-6-7

DuFour, R., DuFour, R., & Eaker, R. (2008*) Revisiting professional learning communities at work*. Bloomington, IN: Solution Tree Press.

Elliott, J. (n.d.). Response to Intervention: What & Why? Retrieved February 25, 2017, from http://aasa.org/SchoolAdministratorARtIcle.aspx?id=4932

Fidelity of Implimentation [PDF document]. (n.d.). Retrieved from http://www.floridaRtI.usf.edu/resources/format/pdf/Fidelity%20of%20Implementation_Revised_SR_09.08.10.pdf

Fletcher, J. M., Lyon, G. R., Barnes, M., Stuebing, K. K., Francis, D. J., Olson, R. K., Shaywitz, S. E., & Shaywitz, B. A. (2002). Classification of learning disabilities: An evidence- based evaluation. In R. Bradley, L. Danielson, & D. Hallahan (Eds.), *Identification of learning disabilities: Research to practice* (pp. 467-519). Mahwah NJ: Erlbaum.

Flores, C. (2013, January 28). History of Education 1900 – 1950 [Prezi slides]. Retrieved from https://prezi.com/um4soase2ar8/history-of-education-1900-1950/

Fuchs, L. S., & Fuchs, D. (1998). Treatment validity: A unifying concept for reconceptualizing the identification of learning disabilities. *Learning Disabilities Research & Practice*, *13*, 204-219.

Fuchs, D., & Fuchs, L. S. (2006). Introduction to response to intervention: What, why, and how valid is it? *Reading Research Quarterly*, *41*(1), 93-99.

Fuchs, D., Compton, D. L., Fuchs, L. S., Bryant, J., & Davis, G. N. (2008). Making "secondary intervention" work in a three-tier responsiveness-to-intervention model: Findings from the first-grade longitudinal reading study of the National Research Center on Learning Disabilities. *Reading & Writing*, *21*(4), 413-436. doi:10.1007/s11145-007-9083-9.

Fuchs, D., & Deshler, D.D. (2007) What we need to know about responsiveness to intervention (and shouldn't be afraid to ask). *Learning Disabilities Research & Practice*, *22*(2), 129-136.

Gibbons, K. (2017). *Evaluating RTI's effectiveness over the long term.* Retrieved from http://aasa.org/SchoolAdministratorARtIcle.aspx?id=4894 p.1.

Glover, T. A., & Vaughn, S. (2010). *The promise of response to intervention: Evaluating current science and practice*. New York: Guilford Press.

Gorski, D. (n.d.). *Tiered instruction and intervention in a response-to-intervention model.* Retrieved from http://www.RtInetwork.org/essential/tieredinstruction/tiered-instruction-and-intervention-RtI-model

Gresham, F., MacMillan, D. L., Beebe-Frankenberger, M. B., & Bocian, K. M. (2000). Treatment integrity in learning disabilities intervention research: Do we really know how treatments are implemented? *Learning Disabilities Research and Practice*, *15*, 198-205.

Gresham, F. M. (1991). Conceptualizing behavior disorders in terms of resistance to intervention. *School Psychology Review*, *20*(1), 23–36.

Gresham, F. M. (2002). Responsiveness to intervention: An alternative approach to the identification of learning disabilities. In R. Bradley, L. Donaldson, & D. Hallahan (Eds.), *Identification of learning disabilities: Research to practice* (pp. 467-519). Mahwah, NJ: Erlbaum.

Gresham, F. M. (2004). Current status and future directions of school-based behavioral interventions. *School Psychology Review*, *33*, 326-343.

Gresham, F. M., VanDerHeyden, A., & Witt, J. C. (2003). *Response to interventions in the identification of learning disabilities: Empirical support and future challenges* [PDF document]. Retrieved from http://www.joewitt.org/Downloads/Response%20to%20Intervention%20MS%20Gresham%20%20Vanderheyden%20Witt.pdf.

Gresham, F., MacMillan, D. L., Beebe-Frankenberger, M. B., & Bocian, K. M. (2000). Treatment integrity in learning disabilities intervention research: Do we really know how treatments are implemented? *Learning Disabilities Research and Practice*, *15*, 198-205.

Hernandez, S. J. (2013) Collaboration in special education: Its history, evolution, and critical factors necessary for successful implementations. *US-China Education Review B*, *3*(6), 480-498. Retrieved from https://files.eric.ed.gov/fulltext/ED544122.pdf

Hoover, J. J. (2011). *Response to intervention: curricular implications and interventions*. Boston: Pearson.

Hosp, M. K., Hosp, J. L., & Howell, K. W. (2007). *The ABCs of CBM: A practical guide to curriculum-based measurement*. New York: Guilford Press.

Houston, R. (1993). Literacy, Education and the Culture of Print in Enlightenment Edinburgh. *History*, *78*(254), 373.

Hunley, S. A., & McNamara, K. (2010). *Tier 3 of the RTI model: Problem solving through a case study approach*. Thousand Oaks, CA: Corwin Press.

Individuals with Disabilities Education Improvement Act, Pub. L. 108-446 (2004).

Kovaleski, J. F. (n.d.). *Treatment integrity: Ensuring the "I" in RtI*. Retrieved from http://RtInetwork.org/getstarted/evaluate/treatment-integrityensuring-the-i-in-RtI.

Kratochwill, T. R., & Bergan, J. R. (1990). *Behavioral consultation in applied settings: An individual guide*. New York: Plenum Press.

Lane, K. L., Bocian, K. M., MacMillan, D. L., & Gresham, F. M. (2004). Treatment integrity: An essential—but often forgotten—component of school-based interventions. *Preventing School Failure*, *48*(3), 36-43.

Lee, A. M. (n.d.). *No child left behind (NCLB): What you need to know*. Retrieved from https://www.understood.org/en/school-learning/your-childs-rights/basics-about-childs-rights/no-child-left-behind-nclb-what-you-need-to-knowabout-childs-rights/no-child-left-behind-nclb-what-you-need-to-know.

Lenski, Susan. (2011). What RTI means for content area teachers. *Journal of Adolescent & Adult Literacy*, 55(*4*), 276-282. Retrieved from: https://ila.onlinelibrary.wiley.com/doi/abs/10.1002/JAAL.00034.

Lyon, G. R., Fletcher, J. M., Shaywitz, S. E., Shaywitz, B. A., Torgesen, J. K., Wood, F. B., et al. (2001). Rethinking learning disabilities. In *Rethinking special education for a new century* (chap. 12). Retrieved from www.ppionline.org/documents/SpecialEd_ch12.pdf.

Martinez, R., & Young, A. (2011). Response to Intervention: How is it practiced and perceived? *International Journal of Special Education*, *26*(1), 44-52.

McCombes-Tolis, J., & Spear-Swerling, L. (2010). The preparation of preservice elementary educators in understanding and applying the terms, concepts, and practices associated with response to intervention in early reading contexts. *Journal of School Leadership, 21*, 360-389.

McKinney, D., & Snead, D. (2017). Accessing teacher concerns regarding response to instruction and intervention. *Journal of Inquiry & Action in Education*, *9*(1), 1-11.

Mitchell, D. (2013). Proposed values: Knowledge for skill sets for Educators working in inclusive settings with learners with diverse educational needs. *Special Education*, (2), 145.

Mundschenk, N. A., & Fuchs, W. W. (2016). Professional learning communities: An effective mechanism for the successful implementation and sustainability of response to intervention. *SRATE Journal*, *25*(2), 55-64.

National Association of State Directors of Special Education (2005). *Response to intervention: Policy considerations and implementation.* Alexandria, VA: National Association of State Directors of Special Education, Inc.

National Reading Panel. (2000). Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction. Washington, D.C.: National Institute of Child Health and Human Development.

Pearson/Psych Corp. (2009, December). *AIMSWeb progress monitoring and RTI system*. Retrieved from https://datacentral.esboces.org/Portals/0/Documents/AssessmentSupport/AIMSWeb/AIMSweb%20Brochure.pdf.

Phonological and Phonemic Awareness. (2016, April 14). Retrieved from http://www.readingrockets.org/helping/target/phonologicalphonemic

Rankin, S. C. (1992). Total quality management: Implications for educational assessment. *NASSP Bulletin*, *76*(545), 66.

Reschly, D. J., & Ysseldyke, J. E. (2002). Paradigm shift: The past is not the future. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology IV* (pp. 3-20). Bethesda, MD: The National Association of School Psychologists.

Richards, C., Pavri, S., Golez, F., Canges, R., & Murphy, J. (2007). Response to intervention: Building the capacity of teachers to serve students with learning difficulties. *Issues in Teacher Education*, *16*(Fall), 55-64.

*RtI at SCRED - St. Croix River Education District*. (n.d.). Retrieved from http://www.scred.k12.mn.us/rt_i/rt_i_at_s_c_r_e_d.

Samuels, C. A. (2006). Groups seek common ground on intervention. *Education Week*, *26*(14), 14.

Samuelsson, S., Byrne, B., Olson, R. K., Hulslander, J., Wadsworth, S., Corley, R., & DeFries, J. C. (2008). Response to early literacy instruction in the United States, Australia, and Scandinavia: A behavioral-genetic analysis. *Learning & Individual Differences*, *18*(3), 289-295.

Sandholtz, J. H. (2011). Pre-service teachers' conceptions of effective and ineffective teaching practices. *Teacher Education Quarterly*, *38*, 27-47.

Scheerenberger, R. C. (1987). *A history of mental retardation: A quarter century of promise*. Baltimore, MD: P.H. Brookes Pub. Co.

Seedorf, S. (2014). Response to intervention. *Gifted Child Today*, *37*(4), 248-257. doi:10.1177/1076217514544029

Sitzmann, B. H., Hightree, B., & Moritz, L. (n.d.). *RTI Interventions Manual: Response to interventions* [PDF document]. (S. Elton, Ed.). Retrieved from http://www.esu1.org/downloads/RtI/RtIManual.pdf

Spear-Swerling, L. (2015). *The power of RTI and reading profiles: A blueprint for solving reading problems*. Baltimore, MD: Paul H. Brookes Publishing Co.

Speece, D.L., Schatschneider, C., Silverman, R., Case, L.P., Cooper, D.H., & Jacobs, D.M. (2011). Identification of reading problems in first grade within a response-to- intervention framework. *Elementary School Journal,* 111(4), 585-607.

Taylor, R. L., Smiley, L. R., & Richards, S. B. (2015). *Exceptional students: educating all teachers for the 21st century*. New York: McGraw-Hill.

Tennessee Department of Education (n.d.). *Response to instruction and intervention framework* [PDF document]. Retrieved from www.tn.gov/content/dam/tn/education/special-education/RtI/RtI2_manual.pdf

Tennessee Department of Education (2015) *Tennessee RtI manual* [PDF document]. Retrieved March 16, 2018, from http://www.tnspdg.com/literacy/.

Tillery, D. A., Varjas, K., Meyers, J., & Collins, A. S. (2010). General education teachers' perceptions of behavior management and intervention strategies. *Journal of Dissertation Abstracts International*, *60*(12-A), 2002–00794-007.

Vaughn, S., & Fuchs, L. S. (2003). Redefining learning disabilities as inadequate response to instruction: The promise and potential problems. *Learning Disabilities Research & Practices*, *18*(3), 137-146.

Vaughn, S., & Glover, T. A. (2010). *Promise of response to intervention: Evaluating current science and practice*. New York: Guilford Press.

Walker, H.M., Shinn, M.R. (2002). Structuring school-based interventions to achieve integrated primary, secondary, and teRtIary prevention goals for safe and effective schools. In M.R. Shinn, H.M. Walker & G. Stoner (Eds.), *Interventions for academic and behavior problems: II. Preventive and remedial approaches* (pp.1-25). Bethseda, MD: National Association of School Psychologists.

Woolfolk, A., & Nan, K. M. (2008, May). Teacher's academic optimism: The development and test of a new construct. *Teaching and Teacher Education*, *24*(4), 821-835. Retrieved from https://doi.org/10.1016/j.tate.2007.08.004.

Zyburt, G. M. (2010). *Comprehensive school reform with a focus on literacy* (Doctoral dissertation). Retrieved from ProQuest Dissertations Publishing. (3414047)

Zvoch, K. (2016). The use of piecewise growth models to estimate learning trajectories and RTI instructional effects in a comparative interrupted time-series design. *The Elementary School Journal*, *116*(4), 699.

**APPENDICES**

# APPENDIX A

# IRB APPROVAL LETTER

**MIDDLE TENNESSEE STATE UNIVERSITY**

7/10/2014

Investigator(s): Tori Young, Dr. Rick Vanosdall
Department: Educational Leadership
Investigator(s) Email Address: tly2f@mtmail.mtsu.edu; Rick.Vanosdall@mtsu.edu

Protocol Title: Exploring Teacher Perspective upon the Elements of a PLC

Protocol Number: #14-406

Dear Investigator(s),

Your study has been designated to be exempt. The exemption is pursuant to 45 CFR 46.101(b)(2) Educational Tests, Surveys, Interviews, or Observations.

We will contact you annually on the status of your project. If it is completed, we will close it out of our system. You do not need to complete a progress report and you will not need to complete a final report. It is important to note that your study is approved for the life of the project and does not have an expiration date.

The following changes must be reported to the Office of Compliance before they are initiated:
- Adding new subject population
- Adding a new investigator
- Adding new procedures (e.g., new survey; new questions to your survey)
- A change in funding source
- Any change that makes the study no longer eligible for exemption.

The following changes do not need to be reported to the Office of Compliance:
- Editorial or administrative revisions to the consent or other study documents • Increasing or decreasing the number of subjects from your proposed population

If you encounter any serious unanticipated problems to participants, or if you have any questions as you conduct your research, please do not hesitate to contact us.


Sincerely,

Lauren K. Qualls, Graduate Assistant
Office of Compliance
615-494-8918

**APPENDIX B**

**PILOT SURVEY INSTRUMENT**

**<u>Teaching Background</u>**

1. Including this school year, how many years have you been teaching? _____

2. Including this school year, how many years have you been teaching at your current school? _____

3. What is your highest level of education?

   o   High School Diploma
   o   Associate Degree
   o   BA/BS
   o   PhD
   o   Ed. D

4. What grade level do you currently teach? (Select all that apply)
   o   K
   o   1
   o   2
   o   3
   o   4

5. What is your current position?
   o   Teacher support
   o   Lead Teacher
   o   Administrator

6. In what year were you born? _____

7. Gender : _____

8. What intervention programs, other than RtI, have you implemented?
   o   None (only RtI)
   o   These programs: _____

9. Where have you received training on how to provide intervention to struggling students? (Check all that apply)

- o College
- o Another school through PD
- o This school through PD
- o None of the above

## RTI Confidence
**For the following questions, 1 is "not confident at all" and 5 is "completely confident." Please check the appropriate number for each question.**

|  | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| 10. How confident do you feel in providing small group intervention to students identified as needing Tier 2 instruction? |  |  |  |  |  |
| 11. How confident are you in your understanding of the AIMSWeb universal screening tool? |  |  |  |  |  |
| 12. How confident are you in the screening tools' results as compared to how you see your students' progress in the classroom? |  |  |  |  |  |

## RTI Process
**Please check the appropriate number for each question.**

|  | 1 Never | 2 Rarely | 3 Sometimes | 4 Very Often | 5 Always |
|---|---|---|---|---|---|
| 13. Do you feel RtI benefits students and their educational goals? |  |  |  |  |  |
| 14. Do you feel RtI takes up to much time? |  |  |  |  |  |
| 15. Do you feel RtI benefits the literacy of students? |  |  |  |  |  |
| 16. Do you feel students were better served prior to the implementation of the RtI model? |  |  |  |  |  |

| | | | | | |
|---|---|---|---|---|---|
| 17. Do you feel collecting data required to monitor progress is difficult? | | | | | |
| 18. Do you feel educators learn a lot about their students through RtI? | | | | | |
| 19. Do you feel the RtI process improves parental involvement? | | | | | |
| 20. Do you feel the parent involvement enhances the RtI process? | | | | | |

**APPENDIX C**

**SURVEY INSTRUMENT**

<u>**Teaching Background**</u>

1. Including this school year, how many years have you been teaching? _____

2. Including this school year, how many years have you been teaching at your current school? _____

3. What is your highest level of education?
   o High School Diploma
   o Associate Degree
   o BA/BS
   o MA/MS
   o PhD
   o Ed. S
   o Ed. D

4. What grade level do you currently teach? (Select all that apply)
   o K
   o 1
   o 2
   o 3
   o 4
   o Grades K-4

5. What is your current position?
   o Teacher support
   o Teacher
   o RtI Teacher
   o Administrator

6. In what year were you born? _____

7. What intervention programs, other than RTI, have you implemented?
   o None (only RTI)
   o These programs: _____

8. Where have you received training on how to provide intervention to struggling students? (Check all that apply)

- o College
- o Another school through PD
- o This school through PD
- o None of the above

## RTI Confidence
**For the following questions, 1 is "not confident at all" and 5 is "completely confident." Please check the appropriate number for each question.**

|  | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| 9. How confident do you feel in providing small group intervention to students identified as needing Tier 2 instruction? |  |  |  |  |  |
| 10. How confident are you in your understanding of the AIMSWeb universal screening tool? |  |  |  |  |  |
| 11. How confident are you in the screening tools' results as compared to how you see your students' progress in the classroom? |  |  |  |  |  |

## RTI Process
**Please check the appropriate number for each question.**

|  | 1 Never | 2 Rarely | 3 Sometimes | 4 Very Often | 5 Always |
|---|---|---|---|---|---|
| 12. Do you feel RTI benefits students and their educational goals? |  |  |  |  |  |
| 13. Do you feel RTI is too time consuming? |  |  |  |  |  |
| 14. Do you feel RTI benefits the student's literacy? |  |  |  |  |  |
| 15. Do you feel students were better served prior to the implementation of the RTI model? |  |  |  |  |  |
| 16. Do you feel RTI collecting data required to monitor progress is difficult? |  |  |  |  |  |

| | | | | | |
|---|---|---|---|---|---|
| 17. Do you feel educators learn a lot about their students through RTI? | | | | | |
| 18. Do you feel the RTI process improves parental involvement? | | | | | |
| 19. Do you feel the parent involvement enhances the RTI process? | | | | | |

# APPENDIX D

## GRADE TAUGHT POST HOC ANALYSIS

| Dependent Variable | (I) GradeTaught | (J) GradeTaught | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval Lower Bound | Upper Bound |
|---|---|---|---|---|---|---|---|
| Q9 | .00 | 1.00 | .714 | .586 | 1.000 | -1.12 | 2.55 |
| | | 2.00 | .119 | .610 | 1.000 | -1.79 | 2.03 |
| | | 3.00 | -.048 | .757 | 1.000 | -2.41 | 2.32 |
| | | 4.00 | .619 | .610 | 1.000 | -1.29 | 2.53 |
| | | 5.00 | .223 | .497 | 1.000 | -1.33 | 1.78 |
| | 1.00 | .00 | -.714 | .586 | 1.000 | -2.55 | 1.12 |
| | | 2.00 | -.595 | .610 | 1.000 | -2.50 | 1.31 |
| | | 3.00 | -.762 | .757 | 1.000 | -3.13 | 1.60 |
| | | 4.00 | -.095 | .610 | 1.000 | -2.00 | 1.81 |
| | | 5.00 | -.491 | .497 | 1.000 | -2.05 | 1.06 |
| | 2.00 | .00 | -.119 | .610 | 1.000 | -2.03 | 1.79 |
| | | 1.00 | .595 | .610 | 1.000 | -1.31 | 2.50 |
| | | 3.00 | -.167 | .776 | 1.000 | -2.59 | 2.26 |
| | | 4.00 | .500 | .633 | 1.000 | -1.48 | 2.48 |
| | | 5.00 | .104 | .525 | 1.000 | -1.54 | 1.75 |
| | 3.00 | .00 | .048 | .757 | 1.000 | -2.32 | 2.41 |
| | | 1.00 | .762 | .757 | 1.000 | -1.60 | 3.13 |
| | | 2.00 | .167 | .776 | 1.000 | -2.26 | 2.59 |
| | | 4.00 | .667 | .776 | 1.000 | -1.76 | 3.09 |
| | | 5.00 | .271 | .690 | 1.000 | -1.89 | 2.43 |
| | 4.00 | .00 | -.619 | .610 | 1.000 | -2.53 | 1.29 |
| | | 1.00 | .095 | .610 | 1.000 | -1.81 | 2.00 |
| | | 2.00 | -.500 | .633 | 1.000 | -2.48 | 1.48 |
| | | 3.00 | -.667 | .776 | 1.000 | -3.09 | 1.76 |
| | | 5.00 | -.396 | .525 | 1.000 | -2.04 | 1.25 |
| | 5.00 | .00 | -.223 | .497 | 1.000 | -1.78 | 1.33 |
| | | 1.00 | .491 | .497 | 1.000 | -1.06 | 2.05 |
| | | 2.00 | -.104 | .525 | 1.000 | -1.75 | 1.54 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | 3.00 | -.271 | .690 | 1.000 | -2.43 | 1.89 |
| | | 4.00 | .396 | .525 | 1.000 | -1.25 | 2.04 |
| Q10 | .00 | 1.00 | .857 | .727 | 1.000 | -1.41 | 3.13 |
| | | 2.00 | .310 | .756 | 1.000 | -2.06 | 2.67 |
| | | 3.00 | -.190 | .938 | 1.000 | -3.12 | 2.74 |
| | | 4.00 | .310 | .756 | 1.000 | -2.06 | 2.67 |
| | | 5.00 | 1.455 | .616 | .348 | -.47 | 3.38 |
| | 1.00 | .00 | -.857 | .727 | 1.000 | -3.13 | 1.41 |
| | | 2.00 | -.548 | .756 | 1.000 | -2.91 | 1.82 |
| | | 3.00 | -1.048 | .938 | 1.000 | -3.98 | 1.89 |
| | | 4.00 | -.548 | .756 | 1.000 | -2.91 | 1.82 |
| | | 5.00 | .598 | .616 | 1.000 | -1.33 | 2.52 |
| | 2.00 | .00 | -.310 | .756 | 1.000 | -2.67 | 2.06 |
| | | 1.00 | .548 | .756 | 1.000 | -1.82 | 2.91 |
| | | 3.00 | -.500 | .961 | 1.000 | -3.51 | 2.51 |
| | | 4.00 | .000 | .785 | 1.000 | -2.45 | 2.45 |
| | | 5.00 | 1.146 | .651 | 1.000 | -.89 | 3.18 |
| | 3.00 | .00 | .190 | .938 | 1.000 | -2.74 | 3.12 |
| | | 1.00 | 1.048 | .938 | 1.000 | -1.89 | 3.98 |
| | | 2.00 | .500 | .961 | 1.000 | -2.51 | 3.51 |
| | | 4.00 | .500 | .961 | 1.000 | -2.51 | 3.51 |
| | | 5.00 | 1.646 | .855 | .924 | -1.03 | 4.32 |
| | 4.00 | .00 | -.310 | .756 | 1.000 | -2.67 | 2.06 |
| | | 1.00 | .548 | .756 | 1.000 | -1.82 | 2.91 |
| | | 2.00 | .000 | .785 | 1.000 | -2.45 | 2.45 |
| | | 3.00 | -.500 | .961 | 1.000 | -3.51 | 2.51 |
| | | 5.00 | 1.146 | .651 | 1.000 | -.89 | 3.18 |
| | 5.00 | .00 | -1.455 | .616 | .348 | -3.38 | .47 |
| | | 1.00 | -.598 | .616 | 1.000 | -2.52 | 1.33 |
| | | 2.00 | -1.146 | .651 | 1.000 | -3.18 | .89 |
| | | 3.00 | -1.646 | .855 | .924 | -4.32 | 1.03 |
| | | 4.00 | -1.146 | .651 | 1.000 | -3.18 | .89 |
| Q11 | .00 | 1.00 | .000 | .668 | 1.000 | -2.09 | 2.09 |
| | | 2.00 | .476 | .696 | 1.000 | -1.70 | 2.65 |
| | | 3.00 | 1.143 | .863 | 1.000 | -1.56 | 3.84 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | 4.00 | .643 | .696 | 1.000 | -1.53 | 2.82 |
| | | 5.00 | .330 | .567 | 1.000 | -1.44 | 2.10 |
| | 1.00 | .00 | .000 | .668 | 1.000 | -2.09 | 2.09 |
| | | 2.00 | .476 | .696 | 1.000 | -1.70 | 2.65 |
| | | 3.00 | 1.143 | .863 | 1.000 | -1.56 | 3.84 |
| | | 4.00 | .643 | .696 | 1.000 | -1.53 | 2.82 |
| | | 5.00 | .330 | .567 | 1.000 | -1.44 | 2.10 |
| | 2.00 | .00 | -.476 | .696 | 1.000 | -2.65 | 1.70 |
| | | 1.00 | -.476 | .696 | 1.000 | -2.65 | 1.70 |
| | | 3.00 | .667 | .884 | 1.000 | -2.10 | 3.43 |
| | | 4.00 | .167 | .722 | 1.000 | -2.09 | 2.42 |
| | | 5.00 | -.146 | .599 | 1.000 | -2.02 | 1.73 |
| | 3.00 | .00 | -1.143 | .863 | 1.000 | -3.84 | 1.56 |
| | | 1.00 | -1.143 | .863 | 1.000 | -3.84 | 1.56 |
| | | 2.00 | -.667 | .884 | 1.000 | -3.43 | 2.10 |
| | | 4.00 | -.500 | .884 | 1.000 | -3.26 | 2.26 |
| | | 5.00 | -.813 | .787 | 1.000 | -3.27 | 1.65 |
| | 4.00 | .00 | -.643 | .696 | 1.000 | -2.82 | 1.53 |
| | | 1.00 | -.643 | .696 | 1.000 | -2.82 | 1.53 |
| | | 2.00 | -.167 | .722 | 1.000 | -2.42 | 2.09 |
| | | 3.00 | .500 | .884 | 1.000 | -2.26 | 3.26 |
| | | 5.00 | -.313 | .599 | 1.000 | -2.18 | 1.56 |
| | 5.00 | .00 | -.330 | .567 | 1.000 | -2.10 | 1.44 |
| | | 1.00 | -.330 | .567 | 1.000 | -2.10 | 1.44 |
| | | 2.00 | .146 | .599 | 1.000 | -1.73 | 2.02 |
| | | 3.00 | .813 | .787 | 1.000 | -1.65 | 3.27 |
| | | 4.00 | .313 | .599 | 1.000 | -1.56 | 2.18 |
| Q12 | .00 | 1.00 | .857 | .476 | 1.000 | -.63 | 2.35 |
| | | 2.00 | .952 | .495 | .928 | -.60 | 2.50 |
| | | 3.00 | 1.619 | .614 | .180 | -.30 | 3.54 |
| | | 4.00 | .952 | .495 | .928 | -.60 | 2.50 |
| | | 5.00 | .473 | .403 | 1.000 | -.79 | 1.73 |
| | 1.00 | .00 | -.857 | .476 | 1.000 | -2.35 | .63 |
| | | 2.00 | .095 | .495 | 1.000 | -1.45 | 1.64 |
| | | 3.00 | .762 | .614 | 1.000 | -1.16 | 2.68 |
| | | 4.00 | .095 | .495 | 1.000 | -1.45 | 1.64 |

|  |  | 5.00 | -.384 | .403 | 1.000 | -1.65 | .88 |
|---|---|---|---|---|---|---|---|
|  | 2.00 | .00 | -.952 | .495 | .928 | -2.50 | .60 |
|  |  | 1.00 | -.095 | .495 | 1.000 | -1.64 | 1.45 |
|  |  | 3.00 | .667 | .630 | 1.000 | -1.30 | 2.64 |
|  |  | 4.00 | .000 | .514 | 1.000 | -1.61 | 1.61 |
|  |  | 5.00 | -.479 | .426 | 1.000 | -1.81 | .85 |
|  | 3.00 | .00 | -1.619 | .614 | .180 | -3.54 | .30 |
|  |  | 1.00 | -.762 | .614 | 1.000 | -2.68 | 1.16 |
|  |  | 2.00 | -.667 | .630 | 1.000 | -2.64 | 1.30 |
|  |  | 4.00 | -.667 | .630 | 1.000 | -2.64 | 1.30 |
|  |  | 5.00 | -1.146 | .560 | .714 | -2.90 | .61 |
|  | 4.00 | .00 | -.952 | .495 | .928 | -2.50 | .60 |
|  |  | 1.00 | -.095 | .495 | 1.000 | -1.64 | 1.45 |
|  |  | 2.00 | .000 | .514 | 1.000 | -1.61 | 1.61 |
|  |  | 3.00 | .667 | .630 | 1.000 | -1.30 | 2.64 |
|  |  | 5.00 | -.479 | .426 | 1.000 | -1.81 | .85 |
|  | 5.00 | .00 | -.473 | .403 | 1.000 | -1.73 | .79 |
|  |  | 1.00 | .384 | .403 | 1.000 | -.88 | 1.65 |
|  |  | 2.00 | .479 | .426 | 1.000 | -.85 | 1.81 |
|  |  | 3.00 | 1.146 | .560 | .714 | -.61 | 2.90 |
|  |  | 4.00 | .479 | .426 | 1.000 | -.85 | 1.81 |
| Q13 | .00 | 1.00 | -1.000 | .509 | .847 | -2.59 | .59 |
|  |  | 2.00 | -.690 | .529 | 1.000 | -2.35 | .97 |
|  |  | 3.00 | -1.857 | .657 | .110 | -3.91 | .20 |
|  |  | 4.00 | -1.524 | .529 | .097 | -3.18 | .13 |
|  |  | 5.00 | -.170 | .431 | 1.000 | -1.52 | 1.18 |
|  | 1.00 | .00 | 1.000 | .509 | .847 | -.59 | 2.59 |
|  |  | 2.00 | .310 | .529 | 1.000 | -1.35 | 1.97 |
|  |  | 3.00 | -.857 | .657 | 1.000 | -2.91 | 1.20 |
|  |  | 4.00 | -.524 | .529 | 1.000 | -2.18 | 1.13 |
|  |  | 5.00 | .830 | .431 | .922 | -.52 | 2.18 |
|  | 2.00 | .00 | .690 | .529 | 1.000 | -.97 | 2.35 |
|  |  | 1.00 | -.310 | .529 | 1.000 | -1.97 | 1.35 |
|  |  | 3.00 | -1.167 | .673 | 1.000 | -3.27 | .94 |
|  |  | 4.00 | -.833 | .549 | 1.000 | -2.55 | .88 |
|  |  | 5.00 | .521 | .456 | 1.000 | -.90 | 1.95 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 3.00 | .00 | 1.857 | .657 | .110 | -.20 | 3.91 |
| | | 1.00 | .857 | .657 | 1.000 | -1.20 | 2.91 |
| | | 2.00 | 1.167 | .673 | 1.000 | -.94 | 3.27 |
| | | 4.00 | .333 | .673 | 1.000 | -1.77 | 2.44 |
| | | 5.00 | 1.688 | .599 | .113 | -.18 | 3.56 |
| | 4.00 | .00 | 1.524 | .529 | .097 | -.13 | 3.18 |
| | | 1.00 | .524 | .529 | 1.000 | -1.13 | 2.18 |
| | | 2.00 | .833 | .549 | 1.000 | -.88 | 2.55 |
| | | 3.00 | -.333 | .673 | 1.000 | -2.44 | 1.77 |
| | | 5.00 | 1.354 | .456 | .076 | -.07 | 2.78 |
| | 5.00 | .00 | .170 | .431 | 1.000 | -1.18 | 1.52 |
| | | 1.00 | -.830 | .431 | .922 | -2.18 | .52 |
| | | 2.00 | -.521 | .456 | 1.000 | -1.95 | .90 |
| | | 3.00 | -1.688 | .599 | .113 | -3.56 | .18 |
| | | 4.00 | -1.354 | .456 | .076 | -2.78 | .07 |
| Q14 | .00 | 1.00 | .571 | .507 | 1.000 | -1.02 | 2.16 |
| | | 2.00 | .976 | .528 | 1.000 | -.68 | 2.63 |
| | | 3.00 | 1.810 | .655 | .131 | -.24 | 3.86 |
| | | 4.00 | .810 | .528 | 1.000 | -.84 | 2.46 |
| | | 5.00 | .018 | .430 | 1.000 | -1.33 | 1.36 |
| | 1.00 | .00 | -.571 | .507 | 1.000 | -2.16 | 1.02 |
| | | 2.00 | .405 | .528 | 1.000 | -1.25 | 2.06 |
| | | 3.00 | 1.238 | .655 | .994 | -.81 | 3.29 |
| | | 4.00 | .238 | .528 | 1.000 | -1.41 | 1.89 |
| | | 5.00 | -.554 | .430 | 1.000 | -1.90 | .79 |
| | 2.00 | .00 | -.976 | .528 | 1.000 | -2.63 | .68 |
| | | 1.00 | -.405 | .528 | 1.000 | -2.06 | 1.25 |
| | | 3.00 | .833 | .671 | 1.000 | -1.27 | 2.93 |
| | | 4.00 | -.167 | .548 | 1.000 | -1.88 | 1.55 |
| | | 5.00 | -.958 | .455 | .622 | -2.38 | .46 |
| | 3.00 | .00 | -1.810 | .655 | .131 | -3.86 | .24 |
| | | 1.00 | -1.238 | .655 | .994 | -3.29 | .81 |
| | | 2.00 | -.833 | .671 | 1.000 | -2.93 | 1.27 |
| | | 4.00 | -1.000 | .671 | 1.000 | -3.10 | 1.10 |
| | | 5.00 | -1.792 | .597 | .070 | -3.66 | .08 |
| | 4.00 | .00 | -.810 | .528 | 1.000 | -2.46 | .84 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1.00 | -.238 | .528 | 1.000 | -1.89 | 1.41 |
| | | 2.00 | .167 | .548 | 1.000 | -1.55 | 1.88 |
| | | 3.00 | 1.000 | .671 | 1.000 | -1.10 | 3.10 |
| | | 5.00 | -.792 | .455 | 1.000 | -2.21 | .63 |
| | 5.00 | .00 | -.018 | .430 | 1.000 | -1.36 | 1.33 |
| | | 1.00 | .554 | .430 | 1.000 | -.79 | 1.90 |
| | | 2.00 | .958 | .455 | .622 | -.46 | 2.38 |
| | | 3.00 | 1.792 | .597 | .070 | -.08 | 3.66 |
| | | 4.00 | .792 | .455 | 1.000 | -.63 | 2.21 |
| Q16 | .00 | 1.00 | -.286 | .552 | 1.000 | -2.01 | 1.44 |
| | | 2.00 | .381 | .574 | 1.000 | -1.42 | 2.18 |
| | | 3.00 | .381 | .712 | 1.000 | -1.85 | 2.61 |
| | | 4.00 | .048 | .574 | 1.000 | -1.75 | 1.85 |
| | | 5.00 | -.152 | .473 | 1.000 | -1.63 | 1.33 |
| | 1.00 | .00 | .286 | .552 | 1.000 | -1.44 | 2.01 |
| | | 2.00 | .667 | .574 | 1.000 | -1.13 | 2.47 |
| | | 3.00 | .667 | .712 | 1.000 | -1.56 | 2.90 |
| | | 4.00 | .333 | .574 | 1.000 | -1.47 | 2.13 |
| | | 5.00 | .133 | .473 | 1.000 | -1.35 | 1.61 |
| | 2.00 | .00 | -.381 | .574 | 1.000 | -2.18 | 1.42 |
| | | 1.00 | -.667 | .574 | 1.000 | -2.47 | 1.13 |
| | | 3.00 | .000 | .730 | 1.000 | -2.29 | 2.29 |
| | | 4.00 | -.333 | .596 | 1.000 | -2.20 | 1.53 |
| | | 5.00 | -.533 | .499 | 1.000 | -2.10 | 1.03 |
| | 3.00 | .00 | -.381 | .712 | 1.000 | -2.61 | 1.85 |
| | | 1.00 | -.667 | .712 | 1.000 | -2.90 | 1.56 |
| | | 2.00 | .000 | .730 | 1.000 | -2.29 | 2.29 |
| | | 4.00 | -.333 | .730 | 1.000 | -2.62 | 1.95 |
| | | 5.00 | -.533 | .653 | 1.000 | -2.58 | 1.51 |
| | 4.00 | .00 | -.048 | .574 | 1.000 | -1.85 | 1.75 |
| | | 1.00 | -.333 | .574 | 1.000 | -2.13 | 1.47 |
| | | 2.00 | .333 | .596 | 1.000 | -1.53 | 2.20 |
| | | 3.00 | .333 | .730 | 1.000 | -1.95 | 2.62 |
| | | 5.00 | -.200 | .499 | 1.000 | -1.76 | 1.36 |
| | 5.00 | .00 | .152 | .473 | 1.000 | -1.33 | 1.63 |
| | | 1.00 | -.133 | .473 | 1.000 | -1.61 | 1.35 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | 2.00 | .533 | .499 | 1.000 | -1.03 | 2.10 |
| | | 3.00 | .533 | .653 | 1.000 | -1.51 | 2.58 |
| | | 4.00 | .200 | .499 | 1.000 | -1.36 | 1.76 |
| Q17 | .00 | 1.00 | -.143 | .521 | 1.000 | -1.77 | 1.49 |
| | | 2.00 | .881 | .542 | 1.000 | -.81 | 2.58 |
| | | 3.00 | 1.381 | .673 | .702 | -.72 | 3.48 |
| | | 4.00 | .548 | .542 | 1.000 | -1.15 | 2.24 |
| | | 5.00 | -.473 | .442 | 1.000 | -1.85 | .91 |
| | 1.00 | .00 | .143 | .521 | 1.000 | -1.49 | 1.77 |
| | | 2.00 | 1.024 | .542 | .998 | -.67 | 2.72 |
| | | 3.00 | 1.524 | .673 | .437 | -.58 | 3.63 |
| | | 4.00 | .690 | .542 | 1.000 | -1.01 | 2.39 |
| | | 5.00 | -.330 | .442 | 1.000 | -1.71 | 1.05 |
| | 2.00 | .00 | -.881 | .542 | 1.000 | -2.58 | .81 |
| | | 1.00 | -1.024 | .542 | .998 | -2.72 | .67 |
| | | 3.00 | .500 | .689 | 1.000 | -1.66 | 2.66 |
| | | 4.00 | -.333 | .563 | 1.000 | -2.09 | 1.43 |
| | | 5.00 | -1.354 | .467 | .091 | -2.81 | .10 |
| | 3.00 | .00 | -1.381 | .673 | .702 | -3.48 | .72 |
| | | 1.00 | -1.524 | .673 | .437 | -3.63 | .58 |
| | | 2.00 | -.500 | .689 | 1.000 | -2.66 | 1.66 |
| | | 4.00 | -.833 | .689 | 1.000 | -2.99 | 1.32 |
| | | 5.00 | -1.854 | .613 | .066 | -3.77 | .06 |
| | 4.00 | .00 | -.548 | .542 | 1.000 | -2.24 | 1.15 |
| | | 1.00 | -.690 | .542 | 1.000 | -2.39 | 1.01 |
| | | 2.00 | .333 | .563 | 1.000 | -1.43 | 2.09 |
| | | 3.00 | .833 | .689 | 1.000 | -1.32 | 2.99 |
| | | 5.00 | -1.021 | .467 | .521 | -2.48 | .44 |
| | 5.00 | .00 | .473 | .442 | 1.000 | -.91 | 1.85 |
| | | 1.00 | .330 | .442 | 1.000 | -1.05 | 1.71 |
| | | 2.00 | 1.354 | .467 | .091 | -.10 | 2.81 |
| | | 3.00 | 1.854 | .613 | .066 | -.06 | 3.77 |
| | | 4.00 | 1.021 | .467 | .521 | -.44 | 2.48 |
| Q18 | .00 | 1.00 | 1.000 | .502 | .804 | -.57 | 2.57 |
| | | 2.00 | .452 | .523 | 1.000 | -1.18 | 2.09 |
| | | 3.00 | .286 | .649 | 1.000 | -1.74 | 2.31 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | 4.00 | -.048 | .523 | 1.000 | -1.68 | 1.59 |
| | | 5.00 | -.402 | .426 | 1.000 | -1.73 | .93 |
| | 1.00 | .00 | -1.000 | .502 | .804 | -2.57 | .57 |
| | | 2.00 | -.548 | .523 | 1.000 | -2.18 | 1.09 |
| | | 3.00 | -.714 | .649 | 1.000 | -2.74 | 1.31 |
| | | 4.00 | -1.048 | .523 | .782 | -2.68 | .59 |
| | | 5.00 | -1.402* | .426 | .032 | -2.73 | -.07 |
| | 2.00 | .00 | -.452 | .523 | 1.000 | -2.09 | 1.18 |
| | | 1.00 | .548 | .523 | 1.000 | -1.09 | 2.18 |
| | | 3.00 | -.167 | .665 | 1.000 | -2.25 | 1.91 |
| | | 4.00 | -.500 | .543 | 1.000 | -2.20 | 1.20 |
| | | 5.00 | -.854 | .450 | .976 | -2.26 | .55 |
| | 3.00 | .00 | -.286 | .649 | 1.000 | -2.31 | 1.74 |
| | | 1.00 | .714 | .649 | 1.000 | -1.31 | 2.74 |
| | | 2.00 | .167 | .665 | 1.000 | -1.91 | 2.25 |
| | | 4.00 | -.333 | .665 | 1.000 | -2.41 | 1.75 |
| | | 5.00 | -.688 | .591 | 1.000 | -2.54 | 1.16 |
| | 4.00 | .00 | .048 | .523 | 1.000 | -1.59 | 1.68 |
| | | 1.00 | 1.048 | .523 | .782 | -.59 | 2.68 |
| | | 2.00 | .500 | .543 | 1.000 | -1.20 | 2.20 |
| | | 3.00 | .333 | .665 | 1.000 | -1.75 | 2.41 |
| | | 5.00 | -.354 | .450 | 1.000 | -1.76 | 1.05 |
| | 5.00 | .00 | .402 | .426 | 1.000 | -.93 | 1.73 |
| | | 1.00 | 1.402* | .426 | .032 | .07 | 2.73 |
| | | 2.00 | .854 | .450 | .976 | -.55 | 2.26 |
| | | 3.00 | .688 | .591 | 1.000 | -1.16 | 2.54 |
| | | 4.00 | .354 | .450 | 1.000 | -1.05 | 1.76 |
| Q19 | .00 | 1.00 | 1.429 | .603 | .345 | -.46 | 3.32 |
| | | 2.00 | 1.000 | .626 | 1.000 | -.96 | 2.96 |
| | | 3.00 | .667 | .767 | 1.000 | -1.73 | 3.07 |
| | | 4.00 | .333 | .626 | 1.000 | -1.63 | 2.29 |
| | | 5.00 | -.063 | .519 | 1.000 | -1.69 | 1.56 |
| | 1.00 | .00 | -1.429 | .603 | .345 | -3.32 | .46 |
| | | 2.00 | -.429 | .603 | 1.000 | -2.32 | 1.46 |
| | | 3.00 | -.762 | .748 | 1.000 | -3.10 | 1.58 |
| | | 4.00 | -1.095 | .603 | 1.000 | -2.98 | .79 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | 5.00 | -1.491 | .491 | .065 | -3.03 | .05 |
| 2.00 | .00 | -1.000 | .626 | 1.000 | -2.96 | .96 |
| | 1.00 | .429 | .603 | 1.000 | -1.46 | 2.32 |
| | 3.00 | -.333 | .767 | 1.000 | -2.73 | 2.07 |
| | 4.00 | -.667 | .626 | 1.000 | -2.63 | 1.29 |
| | 5.00 | -1.063 | .519 | .714 | -2.69 | .56 |
| 3.00 | .00 | -.667 | .767 | 1.000 | -3.07 | 1.73 |
| | 1.00 | .762 | .748 | 1.000 | -1.58 | 3.10 |
| | 2.00 | .333 | .767 | 1.000 | -2.07 | 2.73 |
| | 4.00 | -.333 | .767 | 1.000 | -2.73 | 2.07 |
| | 5.00 | -.729 | .682 | 1.000 | -2.87 | 1.41 |
| 4.00 | .00 | -.333 | .626 | 1.000 | -2.29 | 1.63 |
| | 1.00 | 1.095 | .603 | 1.000 | -.79 | 2.98 |
| | 2.00 | .667 | .626 | 1.000 | -1.29 | 2.63 |
| | 3.00 | .333 | .767 | 1.000 | -2.07 | 2.73 |
| | 5.00 | -.396 | .519 | 1.000 | -2.02 | 1.23 |
| 5.00 | .00 | .063 | .519 | 1.000 | -1.56 | 1.69 |
| | 1.00 | 1.491 | .491 | .065 | -.05 | 3.03 |
| | 2.00 | 1.063 | .519 | .714 | -.56 | 2.69 |
| | 3.00 | .729 | .682 | 1.000 | -1.41 | 2.87 |
| | 4.00 | .396 | .519 | 1.000 | -1.23 | 2.02 |

## APPENDIX E

## POSITION HELD IN SCHOOL POST HOC ANALYSIS

| Dependent Variable | (I) PositionCoded | (J) PositionCoded | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|---|
| | | | | | | Lower Bound | Upper Bound |
| Q9 | 1.00 | 2.00 | .000 | .871 | 1.000 | -2.19 | 2.19 |
| | | 4.00 | 1.031 | .696 | .442 | -.72 | 2.78 |
| | 2.00 | 1.00 | .000 | .871 | 1.000 | -2.19 | 2.19 |
| | | 4.00 | 1.031 | .576 | .247 | -.42 | 2.48 |
| | 4.00 | 1.00 | -1.031 | .696 | .442 | -2.78 | .72 |
| | | 2.00 | -1.031 | .576 | .247 | -2.48 | .42 |
| Q10 | 1.00 | 2.00 | -1.000 | .976 | .939 | -3.46 | 1.46 |
| | | 4.00 | .313 | .779 | 1.000 | -1.65 | 2.28 |
| | 2.00 | 1.00 | 1.000 | .976 | .939 | -1.46 | 3.46 |
| | | 4.00 | 1.313 | .646 | .150 | -.31 | 2.94 |
| | 4.00 | 1.00 | -.313 | .779 | 1.000 | -2.28 | 1.65 |
| | | 2.00 | -1.313 | .646 | .150 | -2.94 | .31 |
| Q11 | 1.00 | 2.00 | -.333 | .941 | 1.000 | -2.70 | 2.04 |
| | | 4.00 | 1.219 | .751 | .342 | -.67 | 3.11 |
| | 2.00 | 1.00 | .333 | .941 | 1.000 | -2.04 | 2.70 |
| | | 4.00 | 1.552 | .622 | .053 | -.02 | 3.12 |
| | 4.00 | 1.00 | -1.219 | .751 | .342 | -3.11 | .67 |
| | | 2.00 | -1.552 | .622 | .053 | -3.12 | .02 |
| Q12 | 1.00 | 2.00 | -.167 | .845 | 1.000 | -2.29 | 1.96 |
| | | 4.00 | 1.031 | .675 | .407 | -.67 | 2.73 |
| | 2.00 | 1.00 | .167 | .845 | 1.000 | -1.96 | 2.29 |
| | | 4.00 | 1.198 | .559 | .118 | -.21 | 2.61 |
| | 4.00 | 1.00 | -1.031 | .675 | .407 | -2.73 | .67 |
| | | 2.00 | -1.198 | .559 | .118 | -2.61 | .21 |
| Q13 | 1.00 | 2.00 | 1.167 | .953 | .688 | -1.23 | 3.57 |
| | | 4.00 | -.563 | .761 | 1.000 | -2.48 | 1.35 |
| | 2.00 | 1.00 | -1.167 | .953 | .688 | -3.57 | 1.23 |
| | | 4.00 | -1.729[*] | .630 | .029 | -3.32 | -.14 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | 4.00 | 1.00 | .563 | .761 | 1.000 | -1.35 | 2.48 |
| | | 2.00 | 1.729[*] | .630 | .029 | .14 | 3.32 |
| Q14 | 1.00 | 2.00 | .333 | .921 | 1.000 | -1.99 | 2.65 |
| | | 4.00 | 1.531 | .736 | .135 | -.32 | 3.38 |
| | 2.00 | 1.00 | -.333 | .921 | 1.000 | -2.65 | 1.99 |
| | | 4.00 | 1.198 | .609 | .173 | -.34 | 2.73 |
| | 4.00 | 1.00 | -1.531 | .736 | .135 | -3.38 | .32 |
| | | 2.00 | -1.198 | .609 | .173 | -2.73 | .34 |
| Q16 | 1.00 | 2.00 | .000 | .864 | 1.000 | -2.18 | 2.18 |
| | | 4.00 | -.719 | .690 | .915 | -2.46 | 1.02 |
| | 2.00 | 1.00 | .000 | .864 | 1.000 | -2.18 | 2.18 |
| | | 4.00 | -.719 | .572 | .651 | -2.16 | .72 |
| | 4.00 | 1.00 | .719 | .690 | .915 | -1.02 | 2.46 |
| | | 2.00 | .719 | .572 | .651 | -.72 | 2.16 |
| Q17 | 1.00 | 2.00 | .000 | .925 | 1.000 | -2.33 | 2.33 |
| | | 4.00 | 1.688 | .738 | .086 | -.17 | 3.55 |
| | 2.00 | 1.00 | .000 | .925 | 1.000 | -2.33 | 2.33 |
| | | 4.00 | 1.688[*] | .612 | .028 | .15 | 3.23 |
| | 4.00 | 1.00 | -1.688 | .738 | .086 | -3.55 | .17 |
| | | 2.00 | -1.688[*] | .612 | .028 | -3.23 | -.15 |
| Q18 | 1.00 | 2.00 | -1.167 | .814 | .483 | -3.22 | .88 |
| | | 4.00 | .563 | .650 | 1.000 | -1.07 | 2.20 |
| | 2.00 | 1.00 | 1.167 | .814 | .483 | -.88 | 3.22 |
| | | 4.00 | 1.729[*] | .538 | .009 | .37 | 3.09 |
| | 4.00 | 1.00 | -.563 | .650 | 1.000 | -2.20 | 1.07 |
| | | 2.00 | -1.729[*] | .538 | .009 | -3.09 | -.37 |
| Q19 | 1.00 | 2.00 | -1.500 | 1.073 | .514 | -4.21 | 1.21 |
| | | 4.00 | .145 | .858 | 1.000 | -2.02 | 2.31 |
| | 2.00 | 1.00 | 1.500 | 1.073 | .514 | -1.21 | 4.21 |
| | | 4.00 | 1.645 | .711 | .081 | -.15 | 3.44 |
| | 4.00 | 1.00 | -.145 | .858 | 1.000 | -2.31 | 2.02 |
| | | 2.00 | -1.645 | .711 | .081 | -3.44 | .15 |

*. The mean difference is significant at the 0.05 level.