Spring 4-2015

The Significance of Response to Intervention (RTI) to Student Progress in Fourth Grade Students in Missouri

Merlyn W. Johnson
Lindenwood University

The Significance of Response to Intervention (RTI) to Student Progress in Fourth Grade Students in Missouri

by

Merlyn W. Johnson

April, 2015

A Dissertation submitted to the Education Faculty of Lindenwood University

in partial fulfillment of the requirements for the degree of

Doctor of Education

School of Education

The Significance of Response to Intervention (RTI)

to Student Progress in Fourth

Grade Students in Missouri

by

Merlyn W. Johnson

This Dissertation has been approved as partial fulfillment

of the requirements for the degree of

Doctor of Education

Lindenwood University, School of Education

Sherry DeVore — Dr. Sherry DeVore, Dissertation Chair — 4-27-15 — Date

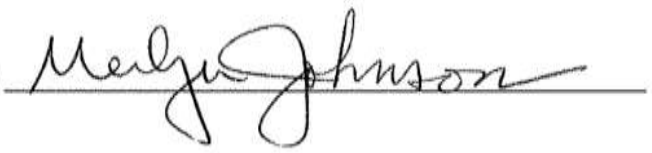
Dr. Terry Reid, Committee Member — 4-27-15 — Date

Julie Williams — Dr. Julie Williams, Committee Member — 4-27-15 — Date

Declaration of Originality

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

Full Legal Name: Merlyn Wynn Johnson

Signature:  Date: 4-27-15

Acknowledgements

I wish to thank the members of the committee: Dr. Sherry DeVore, Dr. Terry Reid, and Dr. Julie Williams. Each of these individuals showed great wisdom, guidance, and support throughout this process. Dr. Williams unselfishly surrendered personal time and provided valuable direction throughout the entire writing process, for which I will always be grateful. I would like to thank each elementary principal who provided insight about the various RTI processes employed at their districts. I would like to thank my encouraging and loving family, Amy, Alyssa, and Reagan for their patience throughout the research and writing process. Without their support and sacrifices, I would have been unable to complete this project. Lastly, I would like to thank my parents for guiding me with love and wisdom into adulthood. They selflessly sacrificed many of their own needs and desires so their children could have opportunities not afforded to them while raising their family. Their sacrifices gave me the opportunity to be in the position to make a difference in the field of education, and I hope they will be proud of this accomplishment.

Abstract

The focus of this research is in the area of Response to Intervention (RTI) and its effect on academic achievement in elementary schools in rural Missouri. In light of the regulations within the Individuals with Disabilities Education Act of 2004 and its accountability requirements for schools, this study is important and timely in order to provide valuable examples of effective RTI processes. The research approach adopted in this dissertation was a quantitative approach; therefore, quantitative analysis was utilized during a statistical comparison of elementary schools in Missouri and a review of information from a survey distributed to elementary principals in Missouri. The findings from this research were statistically significant in relation to improved academic achievement after the implementation of RTI processes. The goal of school administrators and teachers is to implement strategies to meet the educational needs of students. The RTI processes may serve as a viable strategy for this goal to be achieved.

Table of Contents

List of Tables

List of Figures

Chapter One: Introduction

Consider this situation: In 1964, an elementary student from a low socioeconomic home entered fourth grade reading two grade levels below her peers. At the onset of the school year, the classroom teacher discovered a reading deficiency and began to use Science Research Associates (SRA) cards with reading exercises. The student worked independently of the other students in the class, consulting with the teacher only if she encountered difficulties. The student would then follow up with multiple choice questions. The level of difficulty would increase as the student progressed (Guskey & Jung, 2011). This style of intervention has been utilized in United States public schools since the 17th century (Vernon-Feagans et al., 2012). Most children learn to read during elementary school through instruction delivered by the classroom teacher (Appelbaum, 2009). For those who struggle, a clearly defined intervention system must be utilized to help the struggling student gain important basic word reading skills (Vernon-Feagans et al., 2012). Today, Response to Intervention (RTI) is the most widely recognized model of intervention employed in varying degrees by schools (Fuchs, Fuchs, & Compton, 2012). There is nothing new about academic intervention processes for the struggling student (Vernon-Feagans et al., 2012). However, this study will detail the significance of RTI and its effectiveness on academic achievement in rural school classrooms throughout Missouri.

Background of Study

Since the implementation of the Individuals with Disabilities Education Act (IDEA) of 2004, RTI has become the most prominent intervention system in the United States (Jenkins, Schiller, Blackorby, Thayer, & Tilly, 2013). The identification of students with Specific Learning Disabilities (SLD) throughout educational systems

established by IDEA authorized school districts to use Part B funds for intervention purposes (Jenkins et al., 2013). This effort helped districts identify students not yet identified as needing special education but still in need of additional support in the general education classroom (Jenkins et al., 2013). All states have undertaken initiatives to support RTI in several forms including state-level task forces and organized trainings (Jenkins et al., 2013).

The federal law SLD definition has remained unchanged since the 1975 Education for All Handicapped Children Act was passed (Pub. L. No. 94-142, 90 Stat. 773, codified at 20 U.S.C. § 1400) (Hauerwas, Brown, & Scott, 2013). However, the IDEA 2006 update has since created alternative interpretations including a new section titled, "Additional Procedures for Identifying Children with Specific Learning Disabilities" (§ 300.307-311) (Hauerwas et al., 2013). Another notable change in the 2006 update permits states to use an RTI process instead of the use of an IQ-achievement discrepancy model (Hauerwas et al., 2013). The change to the RTI model may allow an alternative research-based procedure to identify an SLD (Hauerwas et al., 2013). Local education agencies in all 50 states have since issued regulations for identification of SLD (Hauerwas et al., 2013).

Policy makers and educational leaders supported the use an RTI approach to SLD identification long before many of the key questions were answered by researchers about such practices (Hale, Kaufman, Naglieri, & Kavale, 2006). Identification as indicated by research continually and frequently misidentified students as having an SLD (Scott, Hauerwas, & Brown, 2014). Individual states have been given the autonomy to define and regulate specific practices as deemed essential for program effectiveness (Missouri

Department of Elementary and Secondary Education [MODESE], 2015a). A major area of concern continues to be the disproportionate number of students living in poverty being placed in special education classes (Scott et al., 2014). Districts across the nation have found it difficult to define how to make SLD determinations using RTI data despite the readily available resources about RTI implementation (MODESE, 2015a). There is also a large degree of variability in the RTI data collection process (Margolis, 2012). The way in which the term RTI is being used in education differs among those who are partaking in the program (Robins & Antrim, 2013). The identification of students with SLD continues to be a legal topic of discussion concerning the association of the RTI approach in coordination with the 2004 amendments to the IDEA (Zirkel, 2013). The present regulatory framework for SLD identification indistinctly requires each state to choose between three options:

- To permit or require RTI
- To permit or prohibit severe discrepancy
- To permit or omit a third option – "other alternative research-based procedures" (Zirkel, 2013, p. 94)

Some supporters believe RTI is designed to benefit all students of all levels on the education spectrum. Others feel RTI was much needed in the improvisation of special education programs (Hauerwas et al., 2013). All RTI advocates agree the documentation of data is necessary if a student's performance is below a given standard; however, the disagreement exists when determining whether data is actually necessary to document the existence of an SLD (Hauerwas et al., 2013). The largest argument has been in determining how much response data should make up the total package of information

needed in identifying students as having an SLD (Hauerwas et al., 2013): "RTI data are most relevant for documenting response to appropriate learning opportunities, and additional data are needed to determine SLD eligibility" (pp. 102-103).

Conceptual Framework

Ngwudike (2010) reported, "Reading success by the fourth grade is a strong indicator of future economic prosperity of a nation, and the achievement of self-actualization" (p. 658). The conceptual framework guiding this study was derived from the RTI model (MODESE, 2008). Additional effective school research was used to further examine the RTI processes. The RTI model serves as a prevention model featuring multiple tiers of reading interventions designed for students based on individual needs (Greulich et al., 2014). RTI is touted as a proven method for assisting struggling readers to become capable, grade level proficient readers (Greulich et al., 2014). There exist a multitude of theories and methods intended to enhance the RTI experience for individual districts and students (MODESE, 2015c). The following are some of the most recognized fundamentals students need to learn to read well:

- Effective articulation and communication
- Advanced awareness in speech sounds and rules governing pronunciation
- Understanding of letter-sound relationships (decoding)
- Extensive vernaculars
- Reading comprehension
- Reading fluency (Ehren, Lipson, & Wixson, 2013)

The RTI framework recognizes learning to read at an early age is conceivably the most significant responsibility of elementary educators (MODESE, 2015b). However,

many students will continue to struggle throughout the early educational years (NCLD, 2015). The systemic failure in the educational setting will limit the seminal skills and knowledge needed for students to become good readers (Schmoker, 2012). Having a strong instructional program does not guarantee instant success for all students (Nellis, 2012). Some students residing within an academically excelling school will necessitate additional support in becoming proficient readers (Robins & Antrim, 2013). Multiple academic and professional sources support early intervention for struggling readers (Nellis, 2012). It is of utmost importance for students requiring intervention to be identified as soon as possible through a well-articulated universal screening process (Howell, Patton, & Deiotte, 2008).

A state conceptual framework was recognized by the MODESE (2015b) which includes four elements necessary to support system change:

- Leadership
- Collaborative Culture
- Parent, Family, and Community Partnerships
- Systemic Implementation

The leadership element is the seminal implementation component of RTI (Reeves, 2010). The influence of the leader plays the most important role in guiding and executing change, managing application, ensuring authentic and appropriate professional development for staff, and planning a program for future success (DuFour & Mattos, 2013). A collaborative culture encompasses effective communication and joint data-based decision-making processes to resolve problems to improve student learning (MODESE, 2015b). Community partnerships, including parents and community patrons

must support the RTI program in each Local Education Agency (LEA) (Buffum, Mattos, & Weber, 2009). Open communication with parents and community patrons brings value to the program and a support mechanism which generates knowledge about the educational practices in the school (Byrd, 2011). Finally, if the RTI model is to succeed, a systemic implementation approach must be organized before student outcomes are positively impacted (MODESE, 2015b).

According to Ehren et al. (2013) leaders are not always people in authority positions; the leadership role can be assumed by every educator in the RTI process. An RTI team is designed to monitor student progress and make determinations based on individual student tier placements (Ehren et al., 2013). Occasionally classroom teachers may be able to bring more specific insight to individual student situations (Ehren et al., 2013). For example, a classroom teacher may not be convinced about the need to move a particular student from tier 2 to tier 3 (Ehren et al., 2013). Based on unique circumstances, the teacher may advocate a different tier 2 intervention (Ehren et al., 2013). In this situation, the classroom teacher is functioning as a leader (Ehren et al., 2013).

Teachers within an RTI framework need to work toward a consistent application of RTI processes within the district (Ehren et al., 2013). If one teacher is providing high-quality core instruction in reading by strategically teaching students to read a variety of text grammars, it is important for all other grade level teachers to reflect corresponding instructional practices (Ehren et al., 2013). District wide confusion will occur if only one out of three classrooms is sufficiently prepared for the increased demands of the following grade level (DuFour & Mattos, 2013). If inconsistencies are detected it is

critical for teachers to reach out to grade level colleagues to promote sound core literacy instruction across the grade (DuFour & Mattos, 2013). Developing a critical mass among grade level instructors may include study group sessions and/or appropriate professional development to help each teacher understand the demands which students will face throughout middle school and high school (Ehren et al., 2013). Effective collaboration among teachers will develop an RTI instructional program designed for high-quality core instruction (Ehren et al., 2013).

The premise behind RTI is to offer students beneficial educational opportunities for as long as an intervention is needed (Guskey & Jung, 2011). Educational leaders must be pre-emptive in discarding or refining any practice that impedes this basic intent (Fuchs & Bergeron, 2013). Varying RTI interpretations among educators does not mean the RTI process is a failure (Fuchs & Bergeron, 2013). Each school district and educator has the freedom to define unique circumstances during the implementation RTI process (Howell et al., 2008). As long as the intent of RTI is understood and communicated across each instructional team, it can be an effective educational structure for improving student outcomes (Guskey & Jung, 2011). The recognition of district wide inconsistencies should be identified and presented to school leaders and improvement teams in an effort to discuss ways to improve overall core instruction (Mellard, McKnight, & Jordan, 2010). Teachers and leaders who accentuate and communicate these inconsistencies are creating a school culture which expands their sphere of influence as a leader (Mellard et al., 2010).

The RTI model supports the concept of creating systematic intervention processes to provide targeted assistance for specific students and additional learning opportunities

for all students. Students are placed in various tiers based on their specific needs (Buffum et al., 2009). The expectation of RTI is for the number of students participating in intense assistance to be less than students participating in minimal or no assistance (Buffum & Mattos, 2008).

RTI is a process which assists educators in identifying struggling students (Appelbaum, 2009); and the formation of current RTI processes was based on information found in the President's Commission on Excellence in Special Education (McNeil, 2013). RTI was originally designed to assist educators in identifying students with specific learning disabilities and to determine the need for services; therefore, participation in an RTI program supports the concepts outlined in the IDEA (Hale et al., 2006). The foundation of the RTI model was to give students the opportunity to receive instruction and assessment before entering special education (Werts, Carpenter, & Fewell, 2014). If educators effectively implement this model, the groundwork would be laid for students to be afforded future educational measurement and observation (Werts et al., 2014).

Due to the early success of RTI and its intervention processes, special education leaders inevitably determined RTI frameworks could contribute important information to the identification of students with learning disabilities (Al Otaiba, Wagner, & Miller, 2014). Support and participation of RTI continued to grow beyond reading and into other disciplines including behavioral interventions (Al Otaiba et al., 2014). RTI was soon identified as something much more than just a system of early identification (Al Otaiba et al., 2014). Astute educators recognized the RTI model could be expanded to annually

identify students at risk for failure starting in early elementary and extending until graduation from high school (Mellard, Stern, & Woods, 2011).

There is a wide range of RTI tier structures implemented in schools, with no research indicating one is better than the other (Mellard et al., 2010). The preponderance of RTI models contain three tiers (see Figure 1) for delivering instruction to meet student needs; although there may exist more tiers as determined by each individual LEA (Mellard et al., 2010). Tier placements are not determinations of a permanent status for students in an RTI program (Mellard et al., 2010). Students should move fluidly from tier to tier in successful RTI systems (Pedrotty Bryant, 2014). Movements forward or backward may occur based on the level of individual student progress (Pedrotty Bryant, 2014). A recurring lack of improved student progress will give cause for classroom teachers, RTI teams, and reading specialists to call for changes in the instructional focus or intensity as a means to meet the academic needs of each struggling student (Buffum et al., 2009). Most RTI models advise schools to determine the criteria for movement among tiers based on screening assessment performance level compared to peers or norms, and guides such as the rate at which students are moving through the learning progression path (Buffum et al., 2009).

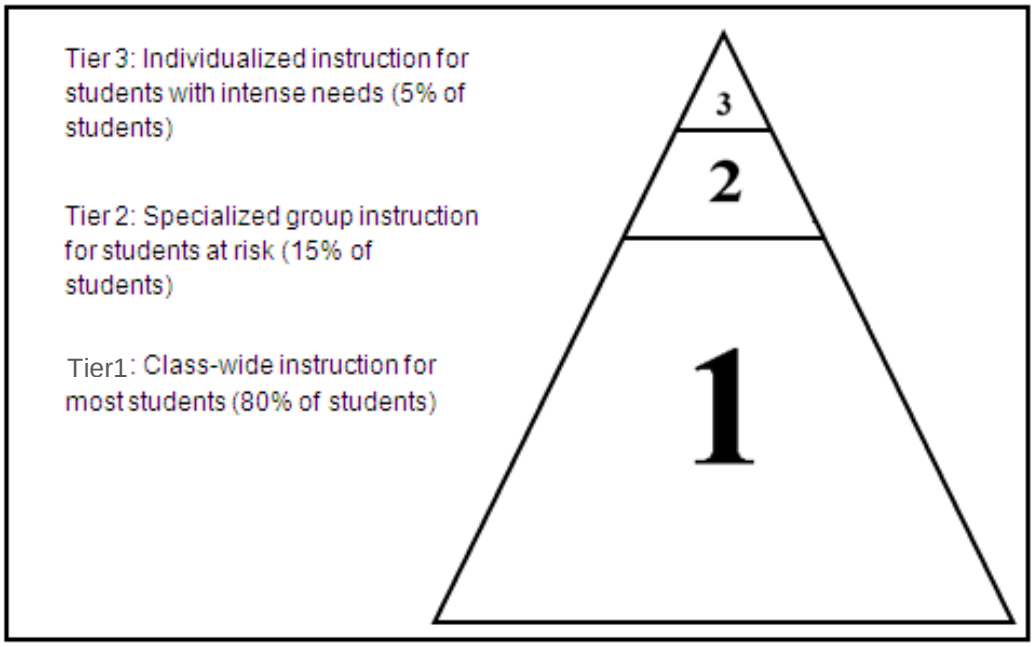


Figure 1. Model RTI tier structure

The first tier is designed to provide academic instructional strategies for *all* students (Pedrotty Bryant, 2014). It is a primary prevention level for schools to provide access for effective general teaching strategies (Pedrotty Bryant, 2014). Students in tier 1 typically possess the understanding of the material and may need enrichment or possible introduction of future topics (Howell et al., 2008). The second tier is designed to deliver supplemental interventions for *some* students through general education instruction (Howell et al., 2008). Tier 2 focuses on students exhibiting difficulties after receiving tier 1 opportunities (Howell et al., 2008). An essential component of both tier 1 and 2 is ongoing progress monitoring (Pedrotty Bryant, 2014). There are multiple bases for tier 2 identification, including scores on screening measures and/or assessments (Al Otaiba et al., 2014). The third tier is designed for those *few* students who do not positively respond to second tier interventions (Al Otaiba et al., 2014). Tier 3 is generally designed for students struggling with basic skills and need intense individualized instruction (Al

Otaiba et al., 2014). In some tier structures the third and additional tiers equate to special education; while some LEAs separate the RTI tier framework from special education (Mellard et al., 2010). The minimum acceptable number of tier levels in Missouri is two (MODESE, 2008). According to the International Reading Association (IRA) (2010), "RTI is not a model to be imposed on schools, but rather a framework to help schools identify and support students before the difficulties they encounter with language and literacy become more serious" (p. 1).

Statement of Problem

Moores (2008) stated, "The No Child Left Behind (NCLB) legislation mandates rigorous, scientifically-based instruction and assessment of progress by grade-level testing at the school, school district, and state levels, with results disaggregated by gender, racial/ethnic status, family income, and disability" (p. 347). The expectation of this legislation is for all students to be proficient readers or to show achievement gains with very few exceptions (Desimone, 2013). This legislation requires each LEA to develop and implement a comprehensive improvement plan, including an academic plan (Desimone, 2013). In response to the NCLB legislation, RTI was developed to assist children having difficulties with regular education curriculum by ensuring early identification, regularly monitoring progress and utilizing research-based instruction (Kovaleski, VanDerHeyden, & Shapiro, 2013).

The MODESE (2015a) defined their plan with seven specific components that are essential to RTI implementation. Specific to this research study is component number six: Multi-tiered Intervention Model (MODESE, 2015c). The MODESE (2015a) defined a multi-tiered intervention model as a sequence intervention process increasing in

intensity and frequency as students progress across the tiers (Pedrotty Bryant, 2014). Movement throughout tiers should be fluid and change based on results of progress monitoring and decisions made by data-based-decision-making teams (Kupzyk, Daly, Ihlo, & Young, 2012).

The RTI process was originally offered as a potential remedy to an eligibility process based primarily on computing the discrepancy between ability and achievement (Guskey & Jung, 2011). RTI's three-tier model was designed as an ongoing process to address all students' educational needs through progress monitoring and assessments (Shinn, 2007). Most states currently have some form of RTI initiative in place MODESE, 2015a). Each state provides guidance and support to districts and schools on how to implement RTI on state websites and throughout statewide professional development initiatives (McInerney & Elledge, 2013).

Gillam and Justice (2010) conducted a study about assessing the progress of primary-grade students in RTI programs. RTI was designed to be a data-driven process for monitoring student progress across all tiers (Mandinach, 2012). The conclusions of this study proclaimed to genuinely measure growth or change, the progress-monitoring tool must take into account the degree of the contexts in which progress is assessed (Gillam & Justice, 2010).

Purpose of Study

The purpose of this research project was to determine if there is a significant difference between student achievement before implementation of RTI practices and student achievement after implementation of RTI practices. The Missouri Assessment Program (MAP) index scores in English Language Arts (ELA) for fourth grade students

was used as secondary data. Even though the RTI model was originally developed as a learning strategy for students with disabilities, schools have applied the model when instructing students who are not mastering grade level objectives (Daves & Walker, 2012). This study provided insight into the methods schools in rural areas were using and how effective RTI practices were in increasing student achievement.

There currently exists limited research regarding RTI and increased MAP ELA student achievement in grade 4 in Missouri (MODESE, 2015a). Archival data were used to conduct an analysis of 30 to 50 Missouri schools utilizing RTI to determine if a difference in MAP ELA performance exists for student achievement before and after the application of RTI for grade 4. Survey data were collected from a stratified sample of 30 to 50 elementary school principals from districts with like demographics to determine the effectiveness of RTI as a strategy to increase student achievement (Fraenkel, Wallen, & Hyun, 2015).

Fourth grade reading achievement is a significant topic of study due to recent research indicating children who are successful in reading achievement by the fourth-grade are more likely to attain further success later in school and as adults (Ngwudike, 2010). Reading success by the fourth grade also is a strong indicator of future "economic prosperity of a nation, and the achievement of self-actualization" (Ngwudike, 2010, p. 658).

Research Questions

This research attempted to answer the following questions:

1. What is the difference between Missouri Assessment Program (MAP) English Language Arts scores for fourth grade students before and after the implementation of the Response to Intervention (RTI) model?

$H_0 1$. There is no difference between Missouri Assessment Program (MAP) English Language Arts scores for fourth grade students before and after the implementation of the Response to Intervention (RTI) model.

2. What is the difference between Missouri Assessment Program (MAP) English Language Arts scores for fourth grade students receiving free or reduced price meals before and after the implementation of the Response to Intervention (RTI) model?

$H_0 2$. There is no difference between Missouri Assessment Program (MAP) English Language Arts scores for fourth grade students receiving free or reduced price meals before and after the implementation of the Response to Intervention (RTI) model.

3. What is the difference between Missouri Assessment Program (MAP) English Language Arts scores for fourth grade girls and fourth grade boys before and after the implementation of the Response to Intervention (RTI) model?

$H_0 3$. There is no difference between Missouri Assessment Program (MAP) English Language Arts scores for fourth grade girls and fourth grade boys before and after the implementation of the Response to Intervention (RTI) model.

The results of this research will be shared with all involved staff at District A. Statistical results will also be shared with all participating districts. With this data, all participating districts will have more insight when making decisions on professional

development, instructional strategies and the incorporation of new educational initiatives. All variables will be considered based on the unique circumstances of District A.

Definitions of Key Terms

For the purpose of this study, the following terms are defined:

Dependent Variable. A variable affected or expected to be affected by the independent variable; also called criterion or outcome variable (Fraenkel et al., 2015).

District A. The participating district; a rural elementary school in Missouri with a population of 258 students.

Extraneous Variable. A variable that makes possible an alternative explanation of results; an uncontrolled variable (Fraenkel et al., 2015).

Independent Variable. A variable that affects (or is presumed to affect) the dependent variable under study and is included in the research design so that its effect can be determined (Fraenkel et al., 2015).

Individuals with Disabilities Education Act of 2004 (IDEA). This federal statute is relative to public education and services to students with disabilities ages 3 through 21 (National Center for Learning Disabilities [NCLD], 2015).

Missouri Assessment Program (MAP). An annual set of mandatory standardized tests taken by students in Missouri (MODESE, 2015a).

Norm-Referenced Assessment. An assessment designed to discover how an individual student's performance or test result compares to that of an appropriate peer group (NCLD, 2015).

Parents as Teachers (PAT). Missouri-based organization designed to provide evidenced-based home visiting and parent engagement tools to parents. These tools have

demonstrated successful results in school readiness, literacy, and health and development of young children (Parents as Teachers National Center [PAT], 2015).

Purposive Sample/Sampling. A nonrandom sample selected because prior knowledge suggests it is representative, or because those selected have the needed information (Fraenkel et al., 2015).

Response to Intervention (RTI). A multi-tier approach to the early identification and support of students with learning and behavior needs. The RTI process begins with high-quality instruction and universal screening of all children in the general education classroom (NCLD, 2015).

Specific Learning Disabilities (SLD). Disability exhibited by students who do not achieve adequately for the child's age or ability to meet state-approved grade-level standards (NCLD, 2015).

Stratified Sampling. The process of selecting a sample in such a way that identified subgroups in the population are represented in the sample in the same proportion as they exist in the population (Fraenkel et al., 2015).

T-Score. A standard score derived from a *z* score by multiplying the *z* score by 10 and adding 50 (Fraenkel et al., 2015).

Tiered Instruction. A tiered model of instruction encompassing various levels of instructional intensity (NCLD, 2015).

Validity. An indication that an assessment instrument consistently measures what it is designed to measure, excluding extraneous features from such measurement (Fraenkel et al., 2015).

Limitations and Assumptions

The following limitations and assumptions were identified:

1. The sample in this study was limited to elementary principals and public elementary schools in Missouri with similar demographics to District A.

2. Survey Instrument: Assumed participant responses were offered honestly and without bias.

3. The reliability and validity of the survey instrument may be compromised by the examiner's inexperience and/or understanding.

4. There exist varying RTI definitions and procedures, which could limit the validity of data studied.

5. The preponderance of thought exists that RTI is a direct result of IDEA 2004.

6. A purposive sampling of 30 to 50 elementary schools utilizing RTI processes were used when collecting data for this study. A larger sample size would likely increase the reliability and validity throughout this study.

Summary

McInerney and Elledge (2013) determined, "RTI, when implemented with fidelity, can be a powerful driver for school improvement and turnaround" (p. 14). There may exist varying degrees of extraneous variables identified throughout the study at District A and/or the other districts studied. The examiner sought to eliminate as many extraneous variables through comprehensive and attentive analysis of data to minimize limitations to this study (Fraenkel et al., 2015). Lack of willing participants may limit validity, relevancy, and the usefulness of data conclusions (Fraenkel et al., 2015).

To critically analyze RTI effectiveness at District A, the examiner sought to determine if District A was making a difference by using comparative data of other RTI districts exhibiting significant academic gains in MAP ELA scores (Bernhardt, 2013). Studies in data analysis encouraged district leaders to continuously evaluate, monitor, and measure program effectiveness and implementation. Bernhardt (2013) noted, "Evaluation means asking good, critical questions about programs to improve programs and help them be accountable for the wise use of resources" (p. 158).

In Chapter Two, a review of relevant literature is presented. The main themes include a history of RTI as it relates to the IDEA 2004, RTI structure, RTI influence on literacy and fluency instruction, existing studies about RTI, various RTI approaches, effective schools research, and limitations of existing definitions of RTI. The research design, population and sample, instrumentation, data collection, and data analysis are detailed in Chapter Three. An analysis of the data is described in Chapter Four, and the conclusions and recommendations for further research are presented in Chapter Five.

Chapter Two: Review of Literature

A collection of literature supported the level of effectiveness of RTI throughout this study. There were varying academic perspectives about RTI utilization and procedures. The examiner attained and studied approximately 75 applicable references before beginning the literature review. The reason the examiner decided to study the effectiveness of RTI was to help plan an improved educational approach at District A. The examiner sought to find sources on both sides of the spectrum; some supporting and others not supporting RTI. The examiner's concern for fidelity in program effectiveness created an impartial perspective about the effectiveness of RTI.

The main focus of this study was to emphasize the importance of correcting the struggling reader at an early age. Juel stated, "A child who is a poor reader in first grade is 88% more likely to remain a poor reader in fourth grade" (as cited in Iaquinta, 2006, p. 413). As a result of this research, the goal of the examiner was to determine effective processes acquired from the data studied for elementary principals to use to improve RTI practices in rural districts across Missouri.

Supporters who embraced the RTI model as a science-based practice and have made RTI knowledge and practice part of their professional expectations and advocacy include:

1. National Association of State Directors of Special Education
2. National Association of School Psychologists
3. National Center for Learning Disabilities (Greenwood et al., 2011).

History of RTI

Students with disabilities have been identified in the United States public education system for well over 100 years (NCLD, 2015). Early educators began to observe struggling students who displayed a record of unexpected reading difficulties (Hauerwas, Brown, & Scott, 2013). In 1895, an ophthalmologist named James Hinshelwood wrote a report describing a patient with a reading disability (Spencer et al., 2014). The following year, a general practitioner named W. Pringle Morgan studied this report and subsequently wrote and published what is thought to be the first reading disability case (Spencer et al., 2014). At the time, a reading disability was labeled as "congenital word blindness" (Spencer et al., 2014). The term learning disabled (LD) was first proposed during the early 1960s (Shaw, 2010). This term became "part of our educational vernacular with the passing of the Education for All Handicapped Children Act of 1975" (Carreker & Joshi, 2010, p. 943). The term LD has since become an accepted form of disability (Desimone, 2013). The identification and eligibility of students as LD is the most important component when using this term (Desimone, 2013). Aaron and Joshi determined, "Because the definition of LD included the description of average or above average intelligence, the logical determination would be that a student with LD would demonstrate a discrepancy between expected achievement and actual achievement" (as cited in Carreker & Joshi, 2010, p. 944).

Prior to the introduction of RTI practices for all students, classroom teachers arbitrarily recommended services for students perceived to be struggling in the general education setting (Scott et al., 2014). These students were then referred for evaluation for special education services (Scott et al., 2014). During the evaluation process, students'

cognitive capabilities were analyzed and compared to their documented levels of achievement (Guskey & Jung, 2011). Students found to have a significant discrepancy between cognitive abilities and achievement were considered eligible for special education services (Daves & Walker, 2012). Eligible students were often separated from regular classroom instruction and regularly received special services not aligned with the general education curriculum (Daves & Walker, 2012). This capricious process was unable to consistently identify students in need of appropriate special education services (Scott et al., 2014). Although there were many students who qualified and benefited from some form of special services, there existed an overwhelming proportion of students who unfortunately did not meet the requirements by the slightest of margins (Mellard et al., 2011). This established discrepancy cutoff denied many young students from qualifying and receiving educational interventions (Guskey & Jung, 2011). Many of these students needed an early intervention process to prevent ongoing failures as they matriculated through elementary, middle school, and high school (Robins & Antrim, 2013). The addition of RTI into the educational setting allowed educators to identify struggling students not qualified for special services and ultimately helped students overcome difficulties by responding favorably to well-designed interventions (Guskey & Jung, 2011).

RTI has a grassroots history influenced and acutely entrenched in the following areas of study:

- Applied behavior analysis
- Precision teaching
- Curriculum-based measurement (CBM)

- Effective teaching (Kovaleski et al., 2013)

The most successful early RTI interventionist districts demonstrated the potential for universal screening, frequent progress monitoring, and a systematic intervention program (NCLD, 2015). All of these components helped to accelerate learning for all students and enriched the accuracy of identification efforts and the overall effectiveness of special education programs (Greenwood et al., 2011). Over time, wide-ranging categories of RTI implementation appeared (Kovaleski et al., 2013).

Individuals with Disabilities Education Act of 2004. The inclusion of RTI in the Individuals with Disabilities Education Act of 2004 was a modification of the earlier IDEA legislation from 1990 outlining federal laws for eligibility (Hale et al., 2006). Response to Intervention was officially introduced with the reauthorization of IDEA in 2004 (Daves & Walker, 2012). The original design of RTI was to provide intensive instruction to students with learning disabilities (Brozo, 2010). RTI is presently being used for all students in the general education classroom as soon as difficulties in obtaining essential reading skills are identified (Fuchs, Fuchs, & Compton, 2004). Fuchs et al. (2004) stated, "The reauthorization encouraged use of a child's response to evidence-based instruction as a formal part of the disability identification process" (p. 263). Initially, IDEA 2004 addressed the issue of determining SLD by stating, "LEA shall not be required to take into consideration whether the child has a severe discrepancy between achievement and intellectual ability in oral expression, listening comprehension, written expression, basic reading, reading comprehension, reading fluency, mathematical calculation, or mathematical reasoning" (United States Department of Education, 2015, § 300.307[a][1]). Instead, IDEA 2004 specified, "In determining whether a child has a

specific learning disability, a local educational agency may use a process which determines if a child responds to scientifically research-based interventions" (United States Department of Education, 2014, § 300.307[a][2]). A statement from McMaster et al. (as cited in Daves & Walker, 2012) described RTI as "a series of strategies used to screen students within the general curriculum, develop tiered instruction, closely monitor student progress, and make informed decisions concerning the next step for that student" (p. 68).

Improved reading achievement and the identification of students with learning disabilities were the proposed goals of RTI (Robins & Antrim, 2013). There remain some complications and obscurities with the identification of students with learning disabilities (Zirkel, 2011). Appropriate interventions are initiated in the following areas when reading skill difficulties are detected:

1. Phonemic awareness
2. Instant word recognition
3. Fluency
4. Test comprehension (Fuchs, Mock, Morgan, & Young as cited in Carreker & Joshi, 2010)

This identification process eliminates the diagnostic determination period and additional educational strategies before providing intensive intervention in the general education classroom (Mellard et al., 2010). The multi-tiered RTI system is a preventative system designed to eliminate continued academic and social failure (Fuchs et al., as cited in Carreker & Joshi, 2010); therefore, "only students not responding to the instruction would be considered for eligibility in special education, which would greatly reduce the

number of referrals for special education placement" (p. 943). Watts-Taffe et al. (2012) reported, "In an RTI framework, providing differentiated and responsive instruction is an important prerequisite to referring a child for special educational services" (p. 305).

Evolution of RTI. The special education eligibility program introduced RTI as a viable option with the reauthorization of IDEA 2004 (Hale et al., 2006). Subsequently, RTI and the special education identification process has evolved into a widespread nationwide educational system (Hale et al., 2006). During this discovery process, LEAs recommended strategies for best practices which included the incorporation of multiple educational methodologies (Pearson, 2009). The best practices eventually included problem-solving, early intervention, progress monitoring, and assessment methodologies (Gillam & Justice, 2010). RTI and the many variations of comprehensive individualized assessments helped LEAs identify the need for services and provided appropriate support for struggling students (Pearson, 2009).

RTI was originally created to identify students with learning disabilities and to avoid mislabeling and identifying excessive numbers of students as having disabilities (Carr & Bertrando, 2012). IDEA allowed districts to employ RTI as an alternative method to a discrepancy model during the identification process for students with learning disabilities (Ehren et al., 2013). RTI was also approved as an allowable expense for school districts to use with federal IDEA funds (IRA, 2010). The evolution of RTI made its big move when federal monies were allowed to be used for early intervening services for students *without* disabilities (IRA, 2010). RTI has been labeled by many states and educational leaders as an elaborate pre-referral system created to complicate the identification process prior to recommending students for special education services

(MODESE, 2015b). Many feel RTI is a duplicitous way to help gather documentation for special education referral instead of a legitimate system designed to authentically address the learning needs for all students (Ehren et al., 2013).

Numerous challenges continue to expand with every local, state, and federal modification presented to elementary schools (Greenwood et al., 2011). Diverse conditions in the elementary classroom are changing the face of education at unprecedented rates (Noltemeyer, Joseph, & Watson, 2014). The most important component when adapting to these conditions is to ensure all students develop literacy and learning skills for content areas throughout grade-level matriculation (Cassidy & Ortlieb, 2012). Brozo (2010) stated, "The language of IDEA requires schools to institute preventive measures that attempt to reduce the number of students who experience initial failure" (p. 147). Greenwood et al. (2011) determined, "RTI is supported by federal and state accountability policies requiring annual reporting an individual child progress and an expectation of improving results for children served" (p. 1). The federal government deliberately excluded details about RTI development and implementation procedures (Desimone, 2013). The determination was to give states and districts the flexibility to create specific approaches that reflect the unique needs of the students within each district and community (IRA, 2010).

The IRA (2010) commissioned 30 members to evaluate the evolving concepts impacting both students and educators. The three-tiered approach is the most widely accepted RTI model (Wanzek & Vaughn, 2011). Tier 1 includes universal, research-based instructional practices designed for all students, tier 2 is designed for small-group short-term intervention, while tier 3 is designed for long-term supplemental instruction

(Buffum et al., 2009). Researchers and educators alike gave much credit to the implementation of RTI in schools across the country as being the seminal factor leading to the decline of students labeled as learning disabled (Werts et al., 2014). Research data recognizing RTI's rapid progression and attainments helped influence the National Governors Association and the Council of Chief State School Officers (CCSSO) to release a set of English Language Arts standards, termed the Common Core State Standards (CCSS), in June 2010 (Cassidy & Ortlieb, 2012).

RTI and the CCSS for English Language Arts have the potential to positively affect literacy instruction and to improve the overall learning environment for all students (Wixson & Lipson, 2012). According to the government officials authorizing RTI and the educators involved in its implementation, "RTI is both an alternative approach to identifying students as learning disabled and a strategy for reducing the number of students who develop serious learning difficulties" (Wixon & Lipson, 2012, p. 387). The CCSS will almost certainly be a positive influence on instruction and intervention within an RTI approach by directing the content of curriculum, instruction, and assessment in ELA (Wixon & Lipson, 2012).

The widespread implementation of RTI initiatives and instructional practices give reason to believe most educators are aware of the theories and frameworks of intervention instruction (Ehren et al., 2013). Different names and places make the identification of RTI complex when comparing one program to another (Appelbaum, 2009). Diligent educational leaders attempt to find ways to soundly implement RTI and to ensure the program is suitable for children and adolescents (McInerney & Elledge, 2013). Continuous professional development and an emphasis on improving professional

expertise within each program is a significant component of effective RTI implementation (Pascopella, 2010). There are no specific iterations, definitions, and/or tier structures (Mellard et al., 2010). For RTI to drive instruction, the intervention process must be entrenched in highly effective core instruction with rigorous assessment and data-based decision making (Ehren et al., 2013):

> For RTI to become a comprehensive school improvement framework, it must move beyond good practice by individual professionals; otherwise RTI will be insufficient to meet the complex needs of diverse learners in an educational environment where the literacy demands are high and ever increasing. (pp. 449-450)

RTI has become mainstream due to the current comprehensive reform movement influencing many educational leaders to improve school outcomes by tracking student progress (Nellis, 2012). Federal funding through the IDEA was the pivotal contributor to RTI's extensive implementation (Pascopella, 2010). The integration of assessments and intervention within a multi-level prevention system maximized student academic outcomes (Mandinach, 2012). The RTI process more precisely identified students in need of special education services and dually addressed underperforming students (Carr & Bertrando, 2012). The RTI process created a way for teachers and educational leaders to identify the struggling learner without requiring special education services, and this educational transformation has allowed RTI to completely change the way students are instructed and monitored (Pascopella, 2010).

Teachers and educational leaders need to consider solutions and act beyond developing highly effective programs in their own local districts (Nellis, 2012). Striving

for improvements for widespread and effective professional relationships throughout a broader educational community increases the likelihood of greater impacts for the overall success of RTI (Jenkins et al., 2013). Participation in ongoing professional development and the genuine attempt to improve as an expert in the field of RTI implementation and instructional processes may help achieve this outcome (Jenkins et al., 2013).

Structure of RTI

In 2004, the IDEA authorized funding for RTI instruction in the United States, and "by 2011, 71 percent of school districts had adopted RTI" (Institute of Education Sciences, as cited in Robins & Antrim, 2013, p. 45). The original objective of RTI was to provide personalized and timely intervention in reading and math for students in danger of not keeping pace with grade level expectations (Jenkins et al., 2013). For the purpose of this study, the RTI focus exclusively covered reading initiatives.

RTI instruction is divided into three tiers (Hoover & Love, 2011). Tier one instruction includes all students. Tier two instruction includes learning strategies which are personalized for small group participation. Tier three provides intensive, individual instruction for students who struggle while in tier 2 (Hoover & Love, 2011). The majority of RTI schools designate a time period during the school day when students receive this extra instruction (Greulich et al., 2014). The RTI structure is completely autonomous (Hoover & Love, 2011). Schools may offer tiered instruction daily or less frequently as determined by the needs of the students and/or individual preferences of school leaders (Mellard et al., 2010). Students who do not need intervention in tier 2 or 3 may participate in enrichment activities during RTI time (Greulich et al., 2014). There is no set number of tiers in the RTI system (NCLD, 2015). Tier structure and number of

tiers fluctuate based on each individual school (NCLD, 2015). Some schools include only one tier, while others may use up to six or seven tiers (Greulich et al., 2014). Additionally, the services provided at one school for a tier 3 intervention may vary in definition and practice to what constitutes a level three tier at another school (Fuchs et al., 2004). Some schools use a "levels" system over a tier system (Fuchs et al., 2004).

RTI success does not instantaneously appear without careful foresight and serious preparation (Robins & Antrim, 2013). It may take up to five years of collaborative planning before an RTI program is implemented effectively (Nellis, 2012). There are five components of successful preparation for effective RTI processes:

1. Training Staff
2. Scheduling Interventions
3. Assessing Student Progress
4. Implementing the Interventions
5. Evaluating the RTI effort as a whole (Robins & Antrim, 2013).

Robins and Antrim stated, "RTI is a school-wide effort in which administrators, core-content teachers, and teachers in other content areas work as collaborative partners" (p. 45).

According to Hattie, "The commitment of time and resources for RTI is likely to continue because recent research shows that it raises student achievement" (as cited in Robins & Antrim, 2013, p. 45). Below is a list of several federally funded sites pertaining to RTI:

1. What Works Clearinghouse – http://ies.ed.gov/ncee/wwc (Lykins, 2012)

2. National Center on Response to Intervention – www.rti4success.org (Fuchs et al., 2012)
3. RTI Action Network – www.rtinetwork.org (MODESE, 2015c).

All three sites provide training, resources, and reviews of possible interventions. The official website for the MODESE and many other state government websites provide support and training for RTI (MODESE, 2015c).

Planning is the key element when effectively implementing RTI (Hoover & Love, 2011). Planning may occur through a professional learning community (PLC) structure or during vertical team meetings and department team meetings (Buffum et al., 2009). Teachers and leaders determine the size and design of the planning teams and how members will alternate among different groups (Fuchs & Bergeron, 2013). RTI planning does not have to be conducted in a formal manner or setting (Buffum et al., 2009). If designed effectively, RTI will work itself into conversations in the most casual settings (Robins & Antrim, 2013). Teachers actively searching for improvements to the RTI process catch themselves discussing strategies while in the stands of a football game, while in the lunchroom and even on the weekends (Robins & Antrim, 2013). During these frequent and informal conversations, team members find themselves positively sharing strengths and needs (McInerney & Elledge, 2013). Positive relationships and group trust will reduce the time needed for planning in each school (Robins & Antrim, 2013).

The development of professional teams is widely regarded as a strategic component when implementing RTI procedures, processes, and practices (Nellis, 2012). There are no set guidelines or restrictions about team design or structure (Appelbaum,

2009). Teams may range from large district wide initiatives to small group instructional teams designed to support individual students (Nellis, 2012). Teams will more than likely remain a common element within RTI schools; especially those implementing multi-tiered systems of support (Buffum et al., 2009). Teaming is not the panacea for widespread school reform or guarantees for positive student outcomes (DuFour & Mattos, 2013). The problem-solving component of teaming has become a challenge and remains an area of ongoing concern for educational leaders to consider before making important system decisions (Nellis, 2012). Administrative leadership remains the number one element for effective RTI implementation and the foundation behind all team success (Nellis, 2012).

When scheduling student interventions, educators must designate ample time and planning (Fuchs & Bergeron, 2013). RTI should not be confused as another educational structure secluding students from the regular classroom. The majority of schools include a designated RTI time into the daily schedule (Nellis, 2012). There is no set curriculum for RTI implementation (Vernon-Feagans et al., 2012).

The RTI process involves a cyclical system of assessing, intervening, and reassessing. This recurring system helps simplify the scheduling process (MODESE, 2015b). Each individual school utilizes the RTI process with uniqueness and without stringent guidelines (Howell et al., 2008). Although you do not want to take too much time when determining whether interventions work, it may take several weeks before authentic data may be genuinely utilized (Ball & Christ, 2012).

Robins and Antrim (2013) claimed, “RTI is dynamic, and that characteristic is what makes scheduling complicated” (p. 46). Students may shift in and out of

intervention determinations and individual needs on a weekly and sometimes daily basis (Robins & Antrim, 2013). The intervention landscape may change for each individual student or various sized groups of students as progress is monitored and placements are determined (O'Connor & Freeman, 2012). Different teachers providing the interventions may rotate based on expertise levels further contributing to scheduling and location issues for students (Appelbaum, 2009). Teachers may work with individual students or a small group of students while other teachers are scheduled to work with groups much larger than the normal class size (McInerney & Elledge, 2013). All aforementioned scheduling circumstances contribute to the laborious nature of RTI, making it an extremely complex and evolving process (Fuchs et al., 2012).

To determine how well an individual model is working in a school the RTI planning component is critically needed (O'Connor & Freeman, 2012). A program evaluation of the implemented RTI model gives staff the opportunity to report to the administration and the board of education problems or solutions for future improvements (Nellis, 2012). Stakeholders are given a chance to be part of the process and teachers are able to continually review and understand their roles in the process (Appelbaum, 2009). RTI's constantly changing assessment methods and intervention determinations require an evaluation system ensuring both are designed for a dependable and accurate program improvement solution base (MODESE, 2015b). The ultimate determination of RTI success is to provide data supporting improvements to individual students' achievement and behavior (Ball & Christ, 2012). The individualized time and attention RTI provides is most definitely appreciated by many students (McNeil, 2013). Students are no longer embarrassed about being singled-out as a student with a learning disability (Hewitt,

2011). Students have exhibited improved attitudes about school and grades and appreciate the fact teachers and school staff are concerned about their work and progress (Robins & Antrim, 2013).

Limitations of existing definitions of RTI. While RTI holds promise for the enrichment of reading achievement, the identification of students with learning disabilities is a more elusive challenge, as described by Carreker and Joshi (2010). According to Werts et al. (2014), there remains an established concern about the learning disabled definition and how students are consistently and appropriately identified. RTI has been endorsed as the most popular alternative identification method (Greenwood, et al., 2011). The determination of RTI definitions must be understood and defined before it can be viewed as a valid means of identifying students with learning disabilities (Fuchs et al., 2012). Although there is potential for improving reading achievement, RTI could fall short if assessment of reading difficulties is too narrow (Carreker & Joshi, 2010).

The implementation efforts of RTI have increased in schools across the country for more than a decade despite the emergence of many questions and concerns (Zirkel, 2011). Some schools have not observed significant improvement in student achievement as expected (O'Connor & Freeman, 2012). RTI effectiveness depends on the implementation measures being used by schools in the areas of screening and progress-monitoring (Pearson, 2009). Weak measures equates to a system where RTI and the students it serves will suffer (Margolis, 2012). Presently, there are no set curricula expressing how schools are to conduct or organize the RTI process (Howell et al., 2008).

Little research concerning the identification of students with disabilities and assessment was available when RTI was included in the IDEA (Zirkel, 2013). There

exist some evidence about RTI and the improvement of outcomes for students with disabilities and a reduction in the amount of students requiring special education services (Spencer et al., 2014). The systematic implementation of RTI should reduce the number of students identified in special education programs (Scott et al., 2014).

RTI: Influence on Literacy and Fluency Instruction

For this study, District A described the processes used to make improvements to the elementary RTI practices and the district literacy plan. The literacy plan was heavily influenced by the RTI data collected during and after implementation of the program.

District A initiated the existing RTI program during the 2011-2012 academic school year. This program emphasized the importance of developing improvements in literacy education district wide. District A's focus was to develop a local literacy plan with an expressed interest on reading fluency targeting lower elementary grades. The administration and staff recognized a dire need to develop an effective RTI program enabling ongoing improvements toward the literacy plan. A literacy plan is an essential blueprint in making a difference for students in the area of reading improvement (Pitcher, Martinez, Decembre, Fewster, & McCormick, 2010). Skillfully evaluating performance data and literacy needs are crucial components of developing an effective literacy plan (Cassidy & Ortlieb, 2012). School and community expectations and support are also vital for the success of the program (Brozo, 2010). In an effort to effectively initiate change, District A's administration and staff used past studies about RTI and fluency interventions to determine what programs would be implemented and how much money would be allotted for successful execution. A considerable amount of planning and research was conducted by all involved staff before the implementation process. At the

onset, District A did not propose to use RTI as a "pull-out" program and it was determined to include a special time period for RTI at the beginning of each school day (Robins & Antrim, 2013).

The incorporation of a strong fluency program was organized by the staff and administration at District A. The fluency instructional initiative presented some challenges to teachers because there was not a clear primary understanding about how it worked. Teachers were given opportunities for applicable professional development concerning the fluency implementation process. Fluency soon became fully intertwined into the literacy and reading curricula. One of the concerns with fluency implementation was neglecting to drive the program with consistency and fidelity (Noltemeyer et al., 2014). Although the tasks appeared menial in nature, repeated oral readings and timed readings were vigorously enforced by all involved teachers (Noltemeyer et al., 2014). Discouragements came in the form of time constraints for teachers and the lack of motivation for non-competitive students. Nevertheless, an effective approach to fluency instruction was determined to be repeated oral readings and a staff willing to devote the necessary time for student progress to be achieved (Clark, Morrison, & Wilcox, 2009).

Minnetonka Public Schools was influenced by a 2013 Minnesota statute pertaining to literacy plans (Minnetonka Public Schools Local Literacy Plan, 2013). This statute emphasized the importance of developing literacy plans during the early years of student development. According to this plan, "Reading well by third grade is one of the many developmental milestones in a child's educational experience" (Minnetonka Public Schools Local Literacy Plan, 2013, p. 1). Effective literacy plans developed during and beyond third grade "will help close the achievement gap and ensure that all students are

ready for the demands of college and the workplace" (p. 1). District A used information gleaned from Minnetonka Public Schools and other successful districts utilizing effective RTI programs and literacy plans.

Implementation of the RTI program and the emphasis on literacy enhancements was influenced by the need to improve the school wide reading crisis exhibited at District A (Ngwudike, 2010). All grade levels had students struggling in reading and writing. Teachers reported students were able to audibly read, but unable to comprehend what they read. Although teachers were able to identify an existing aggregate reading crisis, few were able to provide solutions for correcting individual and cohort reading problems. This inability to pinpoint specific reading deficiencies created a breakdown in closing the reading/writing achievement gap (Daggett, 2003). District A's elementary school began to emphasize the importance of RTI for a period of four years with tenuous guidelines and expectations. Unfortunately, students continue to enter junior high and high school with various reading difficulties. As students matriculated through junior high and high school, their struggles were magnified as the subject matter became more challenging. In an effort to decelerate this trend, the elementary principal and teachers extended the focus from word level and fluency instruction in the early grades to vocabulary and comprehension instruction in the upper grades (Fien et al., 2011).

Reading and writing deficiencies in elementary schools are compounded as students matriculate through their educational careers (Hooker & Brand, 2010). The focus in many successful districts is to continue an emphasis on reading and writing beyond elementary, enduring throughout high school (NCLD, 2015). District A continued to make efforts to teach/train all students for success beyond high school. It

became a focus of administration and staff to close the achievement gap in reading and writing, especially for those students starting the early years in elementary school reading below grade level and/or behind classmates. Hooker and Brand (2010) highlighted the social responsibilities of school districts when asserting, "The K-12 education system…play [*sic*] a vital role in providing youth from underrepresented groups with the academic preparation and social supports needed to succeed in postsecondary education" (p. 84). Literacy education in the upper grades has suffered "from negligence based on the assumption that secondary students already know how to read" (Witte, Beemer, & Arjona, 2010, p. 15).

Adolescent literacy was not listed as a chief recognized educational concern as indicated by a study conducted in 2001 (Cassidy & Ortlieb, 2012). However, over the course of the past decade adolescent literacy instruction has become a formative focus for policy makers and educational leaders (Hooker & Brand, 2010). National attention has been directed toward adolescent literacy in part due to the currently elevated high school dropout rate (Cassidy & Ortlieb, 2012). Two nationally recognized educational reports indicated the importance of focusing on middle and high school literacy development before authentic educational reform is able to be launched (Ngwudike, 2010). Reading at or near grade level by the end of the fourth grade year has been and will remain the basis for building a foundation into middle and high school literacy development (Greenwood et al., 2011). However, not all literacy problems children experience can be resolved during the early elementary years (Ngwudike, 2010). The recent awareness of adolescent literacy has influenced LEAs to place higher levels of attention on correcting the struggling and striving readers beyond the fourth grade year (Cassidy & Ortlieb, 2012).

Concerned about reading instruction in the upper grades, Daggett (2003) suggested school districts do not spend much time or money on literacy education for students in junior high and high school. Daggett further stated, "Just when the reading load increases and students shift from learning to read to reading to learn, no corresponding instruction in reading is provided to students" (p. 3). Hooker and Brand (2010) noted the importance of college readiness for adolescents as they strive to overcome unique circumstances including "first-generation, at-risk, and low-income youth" (p. 84). Daggett acknowledged the worthy goal of proficiency, "but the practical realities of meeting it present some major challenges. While some schools have made great strides, success on a broad scale has remained elusive. Many schools and districts continue to struggle" (p. 1).

The impetus is on teachers to reflect on "literacy skills and socioemotional [*sic*] development in concert" (McTigue, Washburn, & Liew, 2009, p. 422) to promote literacy improvement for all students. Accomplished educators who institute successful literacy plans understand the importance of *how* subject matter is taught and *what* is being taught and how each is equally important (Pitcher et al., 2010). Fountas and Pinnell stated, "Skillful teachers use their knowledge of literacy development and literacy processes to decide where to go next" (as cited in Iaquinta, 2006, p. 417). Moreover, Fountas and Pinnell elaborated how the most adept teachers ingeniously use materials and possess the uncanny ability to know when to intervene and when not to. These teachers are expert modelers and adroit interpreters of strategies. These educators emphasize "guided reading, as a component of a balanced literacy program, starts with good first teaching" (p. 417). Daggett (2003) further cautioned districts pursuing literacy improvement to

understand one hundred percent proficiency is impossible, no matter how hard you work or how many times the approaches are replicated.

When effectively using data, leaders must educate and guide teachers to properly convert data into valid information which will ultimately lead to successful student improvement strategies (Manthey, 2011). Effective leaders "will empower teachers to climb fully into the 'driver's seat' in the multi-faceted undertaking of using data to drive instruction" (p. 30).

Schmoker (2008) prognosticated on the future impact of making educational decisions based on authentic data research. During the past 10 years, "educators have come to embrace data as an indispensable tool for school improvement" (p. 70). Data from a myriad of local sources have been disseminated by the administration and data teams in an attempt to create a relevant literacy plan at District A. Data have been collected and utilized using the following sources: Parents as Teacher (PAT) screenings, school entry screenings, RTI data, AIMSweb data, classroom grades, MAP grade level assessment results, survey responses, Terra Nova results, and STAR Reading data.

District A utilizes AIMSweb as the primary data collection tool. AIMSweb is deeply rooted into the RTI framework (Pearson, 2009). The AIMSweb data systems include an extensive collection of downloadable Curriculum-Based Measurement (CBM) testing and training materials (Pearson, 2009). These CBM practices are based on more than thirty years of scientific research (Pearson, 2009). CBM is especially effective for screening and frequent monitoring of struggling students and for writing Individualized Education Program (IEP) goals and monitoring the progress of students within special education programs (Pearson, 2009). AIMSweb CBM measures are brief; usually less

than four minutes and never more than ten minutes (Pearson, 2009). Testing is done individually or in groups, depending on the measure. All scores are entered or uploaded into the AIMSweb system (Pearson, 2009). The CBM probes are quick to administer and simple to score and can be frequently given to provide continuous progress data. In this data collection system, "results are reported to students, parents, teachers and administrators via a web-based data management and reporting system to determine response to instruction" (Pearson, 2009, p. 2).

Mandinach (2012) stated, "The objective in data-driven decision making is to move educators, schools, districts, and states from being 'data rich but information poor' to using data and transforming them into actionable knowledge" (p. 82). District A faculty was given opportunities for training and required by administration to use data to improve instructional practices. Over the past three years, 47% of students entering seventh grade were reading below grade level (STAR Reading, 2014). Upon receiving these students, District A teachers were inclined to show minimal ownership and appeared unprepared to provide suitable corrective practices to help students overcome these reading difficulties.

This lack of ownership highlighted the need for a new vision at District A. It is essential for all stakeholders to equally share the district vision (Roe, 2013). Through data analysis and an understanding of district school realities, it became imperative for District A to develop an authentic shared vision for reading improvement using an effective continuous school improvement framework. Bernhardt (2013) added, "When a school implements the continuous school improvement framework, it has begun an excellent journey to use data effectively to improve teaching and learning" (p. 146).

When leaders collaboratively develop a shared vision, teachers feel confident and comfortable about implementing district initiatives (Bernhardt, 2013). Teachers should "have a shared vision to be carried out through a strong plan, collaborative leadership structures, professional learning, and quality partnerships" (p. 147).

Students should be challenged for a litany of reasons during state reading assessments (Shaw, 2010). Districts must be aware of these circumstances and lead instruction to adequately make accommodations for the varying levels for each student (Bender & Shores, 2007). District A made tremendous efforts to study appropriate data in attempts to improve individual student as well as cohort group outcomes.

For analysis of the current reality, District A's data team used information from state and local data sources to determine the summary of the last five years of advanced and proficient percentages by classes in Communication Arts. Postsecondary data over the past four years concerning graduates requiring developmental reading in colleges and technical schools were also analyzed (MODESE, 2015a). District A aspired to effectively use Scientifically-Based Reading Research (SBRR) starting in the lower elementary grades (Noltemeyer, Joseph, & Kunesh, 2013). Phonics and word recognition instruction in early reading programs were previously implemented. As students matriculated into and throughout the upper elementary grades, reading comprehension became the seminal focus (Pitcher, et al., 2010). Once in junior high school, teachers used existing data from the elementary in a continuation effort to help students progress to meet their individual reading goals. District entry and exit exams for every grade level were used each year to determine individual student growth. ACT scores and graduate outcome/post-secondary completion rates were used to ascertain recurring problems (MODESE, 2015a).

Students, parents, teachers, business leaders, and other patrons were annually surveyed to help the district determine other issues in need of being addressed (Buffum et al., 2009).

Data from a myriad of local sources were disseminated by the administration and data teams in an attempt to design a relevant literacy plan at District A. Data were collected and utilized using the following sources: PAT screenings, school entry screenings, RTI data, AIMSweb data, classroom grades, MAP grade level assessment results, survey responses, Terra Nova results, and STAR Reading data. All aforementioned data were collected over the course of five years in varying degrees.

District A carefully reviewed various types of literacy plans in hopes of creating a plan designed to successfully remedy the district's unique reading difficulties. Information about literacy plans was obtained from EBSCO, ERIC, and several other search engines found on the internet. Additional information was obtained directly from recognized experts on literacy plans.

The impact of effective teaching on student achievement is well documented (Fuchs & Bergeron, 2013). Effective instruction "is not about workshops or checklists, but about deliberate practice" (Reeves, 2010, p. 65). An effective and manageable plan should not be convoluted, complicated, or difficult to use (DuFour & Mattos, 2013).

Witte et al. (2010) emphasized the importance of building a change agent team who will "steer the plan through the development and implementation phase" (p. 17). District A strived for teachers and administration to collaboratively work to develop a measurable, coherent, concrete, and comprehensible literacy plan (Cassidy & Ortlieb, 2012). Most important, the district desired to incorporate a proactive plan which was not viewed by teachers as compliance to a mandate (Howell et al., 2008).

Bernhardt (2013) explained how, “Some researchers believe that to get teachers using data, professional learning facilitators need to provide more instruction to teachers on how to understand and use the numbers” (p. 146). District A teachers were fully capable of reading data, but until they were taught how to ascertain this data to understand what students need to know, the district would have continued to struggle. A seminal focus for District A administration was to direct all teachers to be trained on how to use applicable data for quick comprehension concerning learning difficulties and how to use it to benefit students (DuFour & Mattos, 2013). Bernhardt (2013) stated, “Effective professional learning, instead, has teachers analyzing and determining how to use the data they gather, as opposed to talking about how to look at data they do not have in front of them” (p. 146). The new focus at District A required many hours of professional development for all staff.

District A determined to employ a framework for continuous school improvement with the goal of moving the district and faculty away from the old form of instruction and toward a method of teaching applications and the broader contextual realities (MODESE, 2015b). District A administration implemented an evaluation plan to help teachers develop consistency in assessing at higher DOK (Depth of Knowledge) levels. Using the recently adopted Missouri Model Educator Evaluation System, teachers were given appropriate professional development opportunities to help achieve these goals (MODESE, 2015a). The goal of this literacy plan was for all students to show growth. As a final measure of district effectiveness, the district analyzed data to determine whether or not graduates were leaving the high school fully prepared to be successful in college and/or career (Ball & Christ, 2012).

Development of vertical teams was crucial for collaborative and meaningful discussions among peers (Nellis, 2012). Vertical teams generated ideas for relevant and appropriate school wide improvement (Fuchs & Bergeron, 2013). Generated ideas were then gathered from the teachers and were evaluated for the practicality and feasibility of implementation (Appelbaum, 2009). Teachers were encouraged to become part of the solution and to take ownership. Once all solutions were considered and determined, the administration and vertical teams agreed on and proceeded with appropriate new resources and technology purchases (Howell et al., 2008). Vertical teams and the professional development committee were also considered and determined which professional development opportunities would most likely help resolve the district's unique reading problems (Nellis, 2012). Teachers participated in the determined professional development opportunities. Teachers were expected to present to their peers all new strategies/procedures learned during their professional development experiences (Nellis, 2012).

Daggett (2003) stated, "During the evaluation process, it is of utmost importance to focus on the most critical solutions. If the plan is too complex or labor intensive, it will most likely fail" (p. 1). The following questions concerning literacy plans were answered during the evaluation process:

1. What is reading proficiency?
2. How shall we set reading proficiency standards?
3. What new approaches/techniques are needed to achieve reading proficiency for all? (p. 1).

These questions and many more were considered throughout the process.

Districts planning to implement a new RTI and/or fluency plan must consider what successful schools are doing (Howell et al., 2008). High achieving districts, of similar demographics, throughout the state were contacted to see what initiatives were being used. In some cases, it might even be appropriate to send staff to successful schools to see in person how they are being effective (Buffum et al., 2009).

The selected strategies were something the teachers understood as a problem needing correction and a willingness to become part of the solution (Greenwood et al., 2011). The vertical teams did not digress from the problems and focused on the relevant issues (Nellis, 2012). The administration and the reading specialist team were continually checking to make sure all efforts stayed on focus (Guskey & Jung, 2011). Once the plan had been completed and the implementation process started, the administration continually re-evaluated the feasibility of the plan (Ehren et al., 2013). Teachers were continually surveyed for input and relevant data information was studied (Greenwood et al., 2011).

The selected solutions must also be affordable (O'Connor & Freeman, 2012). District A had limited funds and evaluated what could be allocated. Many reading initiative projects are able to be implemented with minimal costs, but when initiating extensive technology and reading series upgrades, it can become costly (Jenkins et al., 2013). The district recently purchased a new K-6 reading series costing $45,000. The district already had Explode the Code ($2,000), Renaissance Learning ($1,800), AIMSweb ($1,450), Reading Egg ($1,030), and Spelling City ($425) in the elementary.

District A understood the importance of building a team of change agents (Nellis, 2012). These individuals were responsible for organizing and directing the entire staff into developing a successful literacy improvement plan.

The literacy plan was divided into five parts:

1. Assessment
2. Communication
3. Instruction
4. Intervention
5. Professional Development (Minnetonka Public Schools Literacy Plan, p. 9)

Assessment. District A first decided to develop a district wide assessment program designed to identify students with reading/writing deficiencies. Administrators and teachers spent time in professional development learning how to determine deficiencies and then how to develop programs for student improvements (DuFour & Mattos, 2013). The staff used district created assessments and/or STAR Reading fluency assessments throughout the process.

Communication. District A's website provided information to parents about the district wide literacy plan. This information included information about successful programs implemented at other districts and how District A planned to integrate a successful plan designed specifically for the district's unique needs. The website also included additional information to families at regularly scheduled family nights, parent/teacher conferences, and through parent/teacher technology correspondence (Cook, Shepherd, Cook, & Cook, 2012).

Instruction. District A teachers were highly trained on the use of data to help develop more effective lesson plans and instructional processes (Jenkins et al., 2013). Teachers used district designed assessments and STAR fluency results to aid in developing individual and cohort learning goals for all students.

Intervention. A thorough investigation and evaluation of District's A's RTI and literacy programs were conducted by the administration and staff (Higgins-Averill, Baker, & Rinaldi, 2014). After several weeks of intense meetings and deliberations, it was determined additional time and preparation was needed to restructure the programs for more effectiveness (DuFour & Mattos, 2013).

Professional development. RTI and literacy focused professional development at District A provided teachers the necessary skills and training to effectively implement the school wide RTI and literacy plans. Research-based instructional strategies were introduced and implemented (Fuchs et al., 2012).

The Action Plan required the district to define the RTI and literacy plan goals and to communicate the plan to the board, staff, and community (Cook et al., 2012). It became the hope of the Board of Education and administration for the district to successfully and fully implement both plans using data-driven decision-making (Ball & Christ, 2012). The administration and teachers strived to collaborate and determine effectiveness of the plans by communicating with all stakeholders (Cook et al., 2012). The district communicated the effectiveness of the plans through newsletters, parent nights, handouts, newspaper articles, and the school website.

Everyone involved with the implementation process took into consideration many factors (Cook et al., 2012). An understanding of the importance of ongoing collaboration

with the vertical teams was the first step in the process (Nellis, 2012). The administration held teachers accountable to teach proven practices according to the plans (McInerney & Elledge, 2013). The district was open and willing to seek continual assistance from the MODESE and other educational agencies/advisors. Valid and reliable data collection was ongoing (Hoover & Love, 2011). Finally, the administration team provided constant data for the Board, staff and community to view and interpret (McInerney & Elledge, 2013). Fullan stressed (as cited in Witte et al., 2010) the importance of schools to have in place a wealth of effective strategies for learning to take place. Furthermore, "Reviewing results of the implementation of the plan and considering possible alterations is an important part of the culture of continuous improvement through necessary change" (p. 25).

After time and collaboration took place, the administration and staff constantly evaluated the plans throughout the process for new and/or recurring problems (Hoover & Love, 2011). Time was allotted to study data for relevancy to the problems (Reeves, 2010). The district maintained a focus on the goals of the plans so not to allow other non-related successes to overshadow the original focus (Howell et al., 2008). There was a complete review of the plans annually.

Educators must work together in practical and sustained ways for the effective implementation of RTI to take place (Ball & Christ, 2012). Cultivating a collaborative culture allows districts to more effectively gravitate toward an improved and integrated system of meeting all students' needs (Appelbaum, 2009). For effective collaboration to take place, professionals should work together to design a suitable and unique system for each participating district (Hoover & Love, 2011). When all educational players in the RTI process rally behind each other in a variety of collaborations, "the synergy created

can influence a broad array of infrastructures and practices, resulting in high-quality RTI implementation systemwide [*sic*]" (Ehren et al., 2013, p. 452).

RTI collaborative success is dependent upon respected and enduring partnerships between educators, community members, parents, and students (Bender & Shores, 2007). Effective collaboration should emphasize the importance to meet the essential needs of the struggling student in the areas of language and literacy (Daggett, 2003). District intervention teams should include educators highly trained in the areas of language and literacy instruction (Hoover & Love, 2011). Facilitators of the RTI process should provide leadership in every aspect of the program (Margolis, 2012). Reading interventionists and coaches must carefully plan and use data from the assessments to improve the instructional and support processes (Jenkins et al., 2013). A systematic approach by all involved educators should provide beneficial information to help deliver informed decisions about how to continually improve the program (Roe, 2013). Collaboration should intensify program coherence which will subsequently drive the mechanism toward improved instruction for the struggling reader (Hoover & Love, 2011). Uniformity between core language and literacy instruction and intervention should be a standard (Cassidy & Ortlieb, 2012). This requires a shared vision and the following common goals:

- Language and literacy instruction and assessment
- Adequate time for communication and coordinated planning among general education and specialist teachers
- Integrated professional development (IRA, 2010).

Literacy as it Relates to Poverty

A focus on literacy education and effective RTI practices relating to literacy is the cornerstone of this study. Unfortunately, many students continue to be misidentified as having an SLD (Scott et al., 2014). Due to the vagueness of RTI meanings, much of the determinations and specific practices are left up to each state to define or regulate (Kovaleski et al., 2013). A major area of concern for all is the disproportionate number of students living in poverty being placed in special education classes (Hewitt, 2011). RTI is a recent education initiative hypothesized to reduce these disproportionate numbers in special education (Scott et al., 2014). There exist four major risk factors affecting children living in poverty.

1. Emotional and social challenges
2. Acute and chronic stressors
3. Cognitive lags
4. Health and safety issues (Hewitt, 2011)

Behaviors in children may be negatively influenced by these factors with the possibilities of adversely impacting intelligence (Marquis-Hobbs, 2014). It is the responsibility of educators to shift away from remediating children in poverty to providing enrichment opportunities for these environmental deficiencies (Hewitt, 2011).

Research findings indicated a vast majority of young readers are able to manage simple texts (Fien et al., 2011). Unfortunately, a distinct separation between rich and poor becomes more apparent by the time low-income students reach the fourth-grade when students tackle more academic texts (Hirsch, as cited in Wanzek, Wexler, Vaughn, & Ciullo, 2010). A study designed by the National Research Council (NRC) highlighted

many difficulties children face as they learn to read in school. Estimates from this report claimed "that as many as 45%" (Snow, Burns, & Griffin, as cited in Iaquinta, 2006, p. 418) of school-age children struggle to read in school. The NRC further claimed the majority of reading difficulties occur most often among students "who are poor, are minorities, attend urban schools, or arrive at school not speaking English" (p. 418). Living in poverty directly influences a student's ability to focus, comprehend, and retain information (Marquis-Hobbs, 2014). Juel et al., as cited in Iaquinta (2006) additionally stated, "A child who is a poor reader in first grade is 88% more likely to remain a poor reader in fourth grade" (p. 413).

Traditional schools and teachers may be inadequately prepared to teach students living in poverty, further deterring overall school reading achievement and individual literacy development (Carr & Bertrando, 2012). It is of utmost importance for teachers to take time to understand the hardships of their students (Hewitt, 2011). Students may need time and space in the classroom to unravel after dealing with a chaotic situation at home (Hewitt, 2011). Compassion and motivation are essential attributes for teachers to possess when dealing with students of poverty (Marquis-Hobbs, 2014). Providing access to instructional resources at home and promoting parent and family involvement are excellent programs schools can offer for improved opportunities for students (Marquis-Hobbs, 2014). Byrd (2011) further explained, "Parents may not always be able to grasp the educational terminology that teachers use or the practical implications of those terms for their child" (p. 34). As it relates to RTI and literacy education, teachers must give parents a quick overview of the terms and information at parent teacher conferences or during informal meetings, such as parent orientations at the beginning of the year (Cook

et al., 2012). Effective implementation of RTI provides numerous opportunities for schools to integrate reading and writing activities with reading theme-based text sets to enhance vocabulary development, comprehension, reasoning, and confidence (Sinatra, as cited in Walker-Dalhouse & Risko, 2008, p. 85).

Beyond the high-stakes school accountability requirements mandated by state and federal laws, the difference between success and failure in school has life altering implications for the students within each LEA (Marquis-Hobbs, 2014). Literacy education is the most crucial and life changing responsibility school districts are expected to provide for students (Buffum et al., 2009). Students graduating from school proficient in the essential skills and knowledge have a much greater chance for success in the global marketplace and for additional rewards during adulthood (Marquis-Hobbs, 2014). Conversely, students falling behind in the essential skills are more likely to be poor, dependent upon welfare, incarcerated, and to suffer an early death (Buffum et al., 2009). It is the responsibility of educators to meet the needs of every student, with little room for error (DuFour & Mattos, 2013). Evidence supporting RTI's effectiveness gives educators and parents the hope for providing every student the additional time and support needed to learn at high levels (Buffum et al., 2009).

To compound matters, teachers in poor and rural schools tend to be less experienced and earn lower salaries compared to teachers in more affluent and urban areas (Associated Press, 2014). Teachers in Missouri's poorest and most rural schools earn approximately $10,000 less than teachers in Missouri's wealthiest schools (Associated Press, 2014). Additionally, teachers in Missouri's poorest schools have almost four years less experience than teachers in Missouri's wealthiest schools

(Associated Press, 2014). Publically accessed data used to determine Missouri's poorest schools is the number of students receiving free and reduced-price meals (Associated Press, 2014). The MODESE assistant commissioner of education, Paul Katnik, is presently overseeing a plan to work with school officials to develop strategies to address this problem (Associated Press, 2014). Missouri, three other states, and districts from two additional states are submitting solutions to the federal government to evaluate before determining plans to help other states dealing with the same problems (Associated Press, 2014).

As states and districts tackle these concerns, it is important to place race, class, culture, language, and disability as the foci for educational decision making (Ehren et al., 2013). Failure to do so indicates the assumption that the educational system in America is race, class, culture, language, and disability neutral (Ehren et al., 2013). It is of utmost importance for states and districts to confront these challenges by guiding appropriate practices and policy implementation (Blanchett, Klingner, & Harry, 2009).

Existing Studies on RTI

School psychologists and others involved in the educational process are concerned about the identification of students with SLD (Scott et al., 2014). Parties from both sides continue to debate for either a RTI approach for SLD identification or a methodology including comprehensive evaluations for SLD identification and intervention purposes (Scott et al., 2014). Hale et al. (2006) proposed a resolution to these issues by emphasizing a multi-tiered approach to serving children with learning problems. If the student unsuccessfully responds to the early intervention process and continues to display unidentified learning difficulties over time, a comprehensive

evaluation of cognitive processes will supplant the regular RTI process (Hale et al., 2006). Continued difficulties in the basic psychological procedures following comprehensive evaluations in both methods will be addressed (Scott et al., 2014). Incorporating a mixed approach of both RTI and comprehensive evaluation perspectives creates stability in the practice model (MODESE, 2015b). This balance is designed to safeguard for accuracy within the diagnostics process and optimizes educational conclusions for students with SLD (Hale et al., 2006).

Results of one study by Wanzek and Roberts (2012) revealed no statistically significant main effects between conditions on measures of word reading, fluency, vocabulary, or comprehension in a tiered intervention model. This study investigated the relative effects of three treatments with varying instructional emphases for fourth graders with reading difficulties (Wanzek & Roberts, 2012). Although this study had a relatively small sample size (eighty-seven fourth-grade students) the results appeared to be fairly consistent (Wanzek & Roberts, 2012). There were no statistically significant differences in post test scores between the interventions and, overall, none of the interventions were powerful enough to place the majority of students into the average range on the comprehension measure (Wanzek & Roberts, 2012).

A study by Nunn, Jantz, and Butikofer (2009) examined the concurrent validity between teacher efficacy and perceptions of RTI outcomes. In this study, the concept of "'teacher efficacy' is the belief that teachers develop regarding their influence upon student learning and behavioral outcomes" (p. 215). This study focused on the legislative mandates influenced by IDEA and the high-stakes accountability measurements imposed upon teachers (Nunn et al., 2009). Since RTI is the leading scientifically-based

intervention and progress monitoring process influenced by IDEA, its outcomes were of particular interest throughout the study (Gillam & Justice, 2010). More than 400 educators participated in a five day RTI best practices training, which included on-site support for using RTI knowledge and skills (Nunn et al., 2009). The leading focus was to collaborate, problem-solve, develop interventions, and evaluate the effectiveness of interventions for students (Nunn et al., 2009). The participants were asked to rate the observed levels of effectiveness of RTI implementation upon significant outcomes (Nunn et al., 2009). The general findings of this study indicated an association between improved outcomes of intervention with increases in teacher efficacy (Nunn et al., 2009). These increases also affected satisfaction with results, collaborative team process, and data-based decisions (Nunn et al., 2009). Given the interest and operational expenditures of RTI, this study was relevant for school districts considering the implementation of RTI practices (Nunn et al., 2009).

The association of unacceptably low reading scores and fourth-grade students continues to confound educators across the country (Ritchey, Silverman, Montanaro, Speece, & Schatschneider, 2012). The National Center for Education Statistics and the National Assessment of Educational Progress reported, “that 34% of fourth-grade students in the United States perform below basic levels in reading” (as cited in Ritchey et al., 2012, p. 318). Successful intervention efforts have been well documented when addressing identification for students in the early elementary years (Ritchey et al., 2012). Unfortunately, less attention has been dedicated to students exhibiting reading difficulties in upper elementary grades (Catts, Hogan, & Adolf, as cited in Ritchey et al., 2012). A preponderance of RTI literature emphasized the importance of word level and fluency

instruction during the early grades (Ritchey et al., 2012). As students matriculate into the upper elementary grades, it becomes necessary to shift the focus in the direction of vocabulary and comprehension instruction (Daggett, 2003). Ritchey et al. (2012) conducted a study investigating the effects of a tier 2 supplemental reading intervention for at-risk fourth-grade students. The examiners studied over 100 at-risk fourth-grade students and concluded minimal RTI effects and the need for more research in the area of upper elementary school children (Ritchey et al, 2012).

VanDerHeyden et al., as cited in Scott et al. (2014) discovered when RTI was systematically implemented in one Arizona school district, the number of students requiring special education services decreased while student academic outcomes increased. The implementation of universal screening focused on getting at least 80% of all students meeting specific learning standards (Scott et al., 2014). Wanzek and Vaughn (2011) reviewed a parallel study at a Texas district which found similar results among a high poverty student population. Teachers were provided with specific professional development opportunities focused on the effective use of a core reading program. Teachers were also exposed to several effective stratagems emphasizing variations in differentiated instruction, progress monitoring, and small-group intervention practices (Wanzek & Vaughn, 2011). Together, these two studies advocated a rigorous and accurately implemented RTI program founded on and maintaining a concentration on effective tiered instruction in the core areas. The foundation for both studies stress a tier 1 core instructional program implemented with fidelity and designed for reducing the number of students requiring special education services (Scott et al., 2014).

A study by Wanzek et al. (2010) was conducted to determine the effectiveness of reading interventions for students in the upper elementary grades on reading outcomes. Indistinguishable findings have left many upper elementary teachers confused about how to correct the negative trends associated with reading comprehension during the "fourth grade slump" (Chall & Jacobs, as cited in Wanzek et al., 2010, p. 908). The implications of 24 separate studies suggested high effects for comprehension on researcher-developed comprehension measures (Wanzek et al., 2010). Outcomes indicated mixed results and limited evidence about fluency interventions and vocabulary instruction respectively (Wanzek et al., 2010). Struggling fourth-grade students demonstrate distinguishable patterns in performance which contributes to further difficulties in reading comprehension (Noltemeyer, Joseph, & Watson, 2014). There remain contrasting performances in word identification, phonemic awareness, comprehension, vocabulary, rate of reading and expression (Buly & Valencia, as cited in Wanzek et al., 2010). The examiners indicated further research is needed to examine the effects of comprehension with standardized measures (Wanzek et al., 2010).

Zirkel (2011) examined the confusion surrounding RTI case law as it pertains to the IDEA, including the dangers of compromising the breadth and flexibility of the model and its potential demise. Three separate articles were reviewed which purported to cover case law concerning RTI as a means to clearly expound on the legal misunderstandings dealing with special education litigation and the concept of peer-reviewed research (Zirkel, 2011). Despite these claims, all three articles appeared to foster rather than resolve confusion (Zirkel, 2011). School districts knowingly contribute to this confusion by placing new labels on old wine bottles (Zirkel, 2011). Confusion will persist without

clearly incorporating the defining core characteristics, such as scientific, research-based intervention, continuous progress monitoring, and multiple tiers (Appelbaum, 2009).

Various RTI Approaches

The response to intervention approach is a paradigm shift in K-12 education affecting early education, early intervention, and early childhood special education (Jenkins et al., 2013). The shift moves practice away from the traditional model of waiting for students to qualify for special education before serving them to one of intervening immediately to prevent developmental delays and challenges from becoming disabilities (Greenwood et al., 2011, p. 1).

Carr and Bertrando (2012) recommended six scaffolding strategies to be used frequently, if not daily in the classroom. Visuals and Think-Pair-Share are quintessential and support the other four strategies (Carr & Bertrando, 2012). Appropriate visuals could include projections on interactive whiteboards, graphic organizers, tangible objects, pictures, illustrations, or short videos pertaining to the content being taught (NCLD, 2015). The Think-Pair-Share technique allows individual students to first think for a few moments about a particular question or direction posed by the teacher (Carr & Bertrando, 2012). After the individual reflection time, the student will then collaborate with another classmate or possibly a trio to exchange ideas (Carr & Bertrando, 2012). The teacher may ask a representative from each group to share the consensus during a whole class survey (Ortlieb, Grandstaff-Beckers, & Cheek, 2012). This technique could last for several minutes depending on the topic and age group (Carr & Bertrando, 2012). The objective of Think-Pair-Share is to encourage all students to consider the solution before the answer is given by the most confident or vocal students (Carr & Bertrando, 2012).

When students are given the opportunity to develop independent ideas in a nonthreatening manner, more participation and engagement takes place (Fien et al., 2011). Strategically assigning students to groups is a critical step for all students to achieve optimal success (Pitcher et al., 2010).

Cues, Think Aloud, the KWL chart (see Figure 2), and Summarization were the remaining scaffolding strategies recommended by Carr and Bertrando (2012). The top two academic vocabulary tools recommended were "Enhanced Word Walls and the Frayer Concept Organizer" (p. 26). The top two discourse tools recommended were "Sentence Frames and Discussion Sentence Starters" (p. 26).


KWL Chart

Before you begin your research, list details in the first two columns. Fill in the last column after completing your research.

Topic _____

What I Know	What I Want to Know	What I Learned

Figure 2. KWL Chart

One strategy for improving language and vocabulary skills is through the use of teacher read alouds (Carr & Bertrando, 2012). This strategy incorporates planned oral readings in which the teacher builds background knowledge (Carr & Bertrando, 2012).

The teacher will use vocabulary and text structures which are typically above the students' reading skill level (Fien et al., 2011). Students are encouraged to ask questions if they do not understand meanings and concepts (Fien et al., 2011). This approach is a more prevalent instructional practice used during the early grades (McInerney & Elledge, 2013). Read alouds must be coupled with other vocabulary instructional processes before a deep level of word recognition improvements can be obtained (Carr & Bertrando, 2012). Small group vocabulary instruction is a promising strategy for overall improved student engagement (Fien et al., 2011). Improved student engagement helps close the vocabulary achievement gap for students at risk for comprehension difficulties (Fien et al., 2011).

As school districts strive to establish a more comprehensive vision for reading programs, educators struggle with the complexities of differentiated instruction for students whose literacy needs, interests, and strengths vary widely (Pascopella, 2010). Differentiation has drawn increasing attention since the IDEA introduced RTI (Watts-Taffe et al., 2012). "In an RTI framework, providing differentiated and responsive instruction is an important prerequisite to referring a child for special educational services" (p. 305).

> Students have different language and literacy needs so they may not respond similarly to instruction, even when research-based practices are used. No single process or program can address the broad and varied goals and needs of all students, especially those from different cultural linguistic backgrounds. (IRA, 2010, p. 3)

Classroom teachers, literacy coaches, professional development facilitators, and administrators are continually being challenged to discover and implement new and improved strategies for effective differentiation instruction (Fien et al., 2011). An in-depth knowledge of students' literacy needs, strengths, and interests is crucial in determining how to differentiate (Shaw, 2010). Rewarding right answers with more questions is one of several effective techniques used when differentiating instruction (Lemov, 2010). Being knowledgeable about the reading process and proficient at researching best practices associated with instruction and assessment is another critical requirement for effective teachers (McInerney & Elledge, 2013). A flexible use of the core literacy curriculum and the development of a routine classroom system allowing for independent and small group instruction are also important characteristics of effective differentiation (Watts-Taffe et al., 2012).

Selecting a model. Applied behavior analysis, precision teaching, curriculum-based measurement (CBM), and effective teaching are just a few of the RTI implementations emerging over time (Al Otaiba et al., 2014). The problem-solving model involves a team of educators who use student performance data to define learning problems which influence the development of relevant interventions to remedy those problems (Howell et al., 2008). Upon the completion of the interventions, the team will then evaluate the effects to determine appropriate modifications (Nellis, 2012). This model is not effectively articulated, allowing for site autonomy and modifications but also causes variance or unreliable effects (Wright, 2007). The functional assessment model involves the assessment of student performance before intervention (Al Otaiba et al., 2014). Conditions are then organized to examine how well intervention efforts

improved student learning (Al Otaiba et al., 2014). This model offers limited guidance about the identification of students in need of intervention (Higgins-Averill et al., 2014). The standard protocol model is a comprehensive intervention system requiring well-funded research trials (Spencer et al., 2014). These procedures can be problematic to replicate in applied settings because of the resources required to implement the interventions (Al Otaiba et al., 2014). Lastly, the hybridized or blended model is a combination of the aforementioned models (Kovaleski et al., 2013). The hybrid model attempts to incorporate low achievement and poor response to effective, research-based interventions (Spencer et al., 2014).

The use of valid and reliable data to identify student progress toward achievement of curricular standards is a significant characteristic of any RTI model (Ball & Christ, 2012). According to Hoover and Love (2011), "Data are gathered in one of three ways:

1) Screening completed three to four times per year
2) Monthly or biweekly progress monitoring
3) Diagnostic assessments that pinpoint specific learner needs" (p. 41).

The screening process typically occurs during tier 1 instruction (Hoover & Love, 2011). Progress monitoring may occur within any tier of instruction although it is primarily used throughout tiers 2 and 3 (Jenkins et al., 2013). Specific instructional needs are determined during the diagnostic phase using data compiled in tiers 2 and 3 (MODESE, 2015b). Educational leaders and teachers must familiarize themselves with the district approved screening and classroom-based progress monitoring processes before success can be achieved for any RTI model (Greulich et al., 2014). Data

generated throughout district assessment practices serves as the foundation for making informed instructional decisions (Howell et al., 2008).

Each school district must determine the appropriate RTI model most suitable for the current realities (McInerney & Elledge, 2013). There are numerous models to implement with no right or wrong initial choice (Kovaleski et al., 2013). Once a model is employed, the district must aggressively collaborate to ensure the program is implemented with fidelity (Hoover & Love, 2011). A high level of quality implementation is dependent upon each district choosing the appropriate model for the given circumstances (IRA, 2010). The accuracy of decisions made at each stage of the implementation process is of utmost importance before positive effects can be attained (Kovaleski et al., 2013). Effective implementation requires the following procedures to be implemented at schools:

- Understand and accurately identify the needs of the students requiring intervention
- Ensure the chosen strategies are systematically and effectively delivered to resolve the learning problems for the majority of students exposed to the intervention
- Continually monitor intervention procedures and outcomes; troubleshoot to ensure reliability in intervention processes
- Make decisions for needed intervention variations
- Use RTI data to help make decisions in special education referral and eligibility procedures

- Use RTI data results to determine organizational alterations such as resource allocations, professional development, and program evaluations (Kovaleski et al., 2013)

Effective Schools Research

This study intended to identify common themes observed at districts successfully implementing RTI. Throughout this study, the examiner sought to differentiate viable research from poor research (McEwan & McEwan, 2003). The examiner selected six districts exhibiting RTI success in academic achievement since implementation. The examiner also attempted to select districts with demographics similar to District A. Districts from Colorado, Iowa, Kansas, Massachusetts, Minnesota, and Oklahoma were studied (NCLD, 2015). Each study contained the following RTI organizational and reflection components:

- What did the school district do?
- What challenges did the school district face?
- What was the outcome of the school district's effort?
- What advice would the school district leaders give others? (NCLD, 2015).

What did the school district do? Pear Park Elementary School in Grand Junction, Colorado had 450 students enrolled during the 2011-2012 school year, with 73% of the student population qualifying for free or reduced price meals (NCLD, 2015). Pear Park began the RTI implementation process during the 2007-2008 school year (NCLD, 2015). RTI success at Pear Park was not immediate. The principal-appointed RTI team was ineffective in developing beneficial monthly problem solving meetings and a clear school wide vision for RTI was nonexistent (NCLD, 2015). The following school

year, the district's literacy interventionist assumed the role of RTI coordinator (NCLD, 2015).

In spite of budget limitations, Pear Park Elementary was able to use available resources and teachers' strengths to assist the intervention program (NCLD, 2015). The implementation of a daily schedule including uninterrupted core instruction became a district focus (NCLD, 2015). Consistent and ongoing teacher and staff communication along with strong administrative support provided the background for core curriculum at Pear Park, with intervention plans for all students throughout the RTI model (NCLD, 2015). Targeted professional development trainings were provided to assist staff with ideas for supporting instructional approaches, data-use, and documentation (NCLD, 2015). Pear Park's RTI success can be attributed to effective team development, requiring documentation to be completed for each student, parent contact and involvement, ongoing communication including end of year staff evaluations, a school wide tracking program, and an emphasis on baseline and subsequent levels in literacy (NCLD, 2015).

ISD 271 School District in Bloomington, Minnesota chose to implement the RTI framework in two elementary schools (NCLD, 2015). Reading was the determining focus at ISD 271, although Positive Behavior Intervention and Supports (PBIS) programs were in place (NCLD, 2015). Annual student screenings were used to determine the intervention level required (NCLD, 2015). Students performing at ten to fifteen percent below grade level were considered struggling and in need of intervention (NCLD, 2015). AIMSweb and DIBELS were used to provide fall, winter, and spring data to monitor student progress and were measured against benchmarks (NCLD, 2015). For

visualization and motivational purposes, teachers constructed graphs to track student development to help students understand individualized progress (NCLD, 2015). At ISD 271, all students testing below grade level for reading received tier 2 interventions (NCLD, 2015). Tier 3 interventions at ISD 271 were expected to be included in the RTI model during future school years (NCLD, 2015).

Several district staff members at Central Elementary School in Yukon, Oklahoma participated and became extremely interested in an RTI professional development initiative at the end of the 2006-2007 school year (NCLD, 2015). The following school year, Central Elementary contracted with a prominent RTI specialist to help the district professionally develop a tiered model which included biweekly RTI meetings (NCLD, 2015). The school RTI coordinator began to develop an intervention approach for students struggling with language and literacy (NCLD, 2015). RTI team members collaborated and developed a successful data-driven decision making process (NCLD, 2015). Quick reference sheets for phonological awareness error correction strategies were developed (NCLD, 2015). Data were continuously collected and open communication between teachers and administration helped support reading improvements throughout Central Elementary (NCLD, 2015).

At Jefferson Intermediate School in Pella, Iowa students participated in a series of fluency/accuracy screenings four times a year (NCLD, 2015). The Iowa Test of Basic Skills was administered in the fall. The Gates McGintie assessment was administered in the spring (NCLD, 2015). Accelerated Reader and district benchmarks were also used to monitor individual student progress (NCLD, 2015). Student Assistance Team meetings were conducted to discuss data concerns if teachers detected declines in student

performance and a need for interventions (NCLD, 2015). Follow-up meetings were organized by the Student Assistance Coordinator to develop intervention plans to help meet the needs of students (NCLD, 2015). Diagnostic assessments and progress monitoring were also used to determine the best interventions (Gillam & Justice, 2010). Additional team meetings analyzed student growth data for further intervention determinations (NCLD, 2015). Three professional Literacy Days were added to the school calendar in an effort to give staff time to review screening data for the effective monitoring of interventions and to help make placement decisions for students (NCLD, 2015).

Salisbury Elementary School in Salisbury, Massachusetts had a student population of 575 students during the 2012-2013 school year (NCLD, 2015). During the first year of RTI implementation at Salisbury, district leaders identified literacy as their greatest need (NCLD, 2015). A focus on reading improvements through benchmarks led the district to select a new evidence-based reading and spelling program (NCLD, 2015). The new program facilitated the development of an enhanced literacy plan within an RTI model (NCLD, 2015). Professional development for staff and collaborative work of the data coaches emphasized the importance of teaching the core curriculum with fidelity (NCLD, 2015). DRA2, DIBELS, district assessments, and the new reading and spelling program were used to collect data to help staff determine intervention plans (NCLD, 2015). Monthly meetings facilitated by the data coaches were planned to discuss the results. (NCLD, 2015).

Lowther South Intermediate School in Emporia, Kansas is an elementary school of nearly 300 students (NCLD, 2015). Administration divided the school into four teams,

developed an adjusted daily schedule, and designated 45 minutes of intervention time (NCLD, 2015). During the first year of RTI implementation, the daily schedule was designed to make sure intervention time was protected and uninterrupted regardless of circumstances (NCLD, 2015). For the first time at Lowther South the staff administered DIBELS to all students with surprising results; 20% of the fifth grade students could not decode at grade level (NCLD, 2015). The findings produced a sense of urgency among staff and an understanding about the importance of scheduling adequate time for RTI and the implementation process (NCLD, 2015). Lowther South began the walk-to-intervention model which includes four teachers per team – two who taught literacy all day and two who taught the other core subjects (NCLD, 2015). All teachers were trained to deliver reading instruction during intervention time (NCLD, 2015). The 45 minute intervention block included 30 minutes of phonics instruction and 15 minutes of monitored and/or independent reading practice (NCLD, 2015). Professional development and a weekly early dismissal allowed for over two and a half hours a week of collaboration time (NCLD, 2015). The time allowed teams to analyze data, plan lessons, and review resources (NCLD, 2015).

What challenges did the school district face? Support staff cutbacks were the main challenge at Pear Park Elementary during the 2011-2012 school year (NCLD, 2015). The two leading challenges at ISD 271 School District were finding a common screening tool and the logistics of finding sufficient time to conduct the interventions (NCLD, 2015). Additionally, the administration had a difficult time securing enough staff to perform interventions (NCLD, 2015). Questions about job boundaries and worries of encroachment were the only challenges listed at Central Elementary (NCLD,

2015). Jefferson Intermediate School was challenged to find the time to adequately review data and to meet and discuss its implications (NCLD, 2015). Limited resources and finding effective progress-monitoring tools were also listed as challenges at Jefferson Intermediate School (NCLD, 2015). Salisbury Elementary listed staff resistance at the beginning of RTI implementation as a challenge (NCLD, 2015). Additionally, changing the master schedule and sustaining the momentum and training for new staff were challenges faced by Salisbury Elementary (NCLD, 2015). A distinct challenge at Lowther South Intermediate School was the lack of early staff commitment (NCLD, 2015).

What was the outcome of the school district's effort? At Pear Park Elementary School a practical approach to the implementation of RTI emerged (NCLD, 2015). Teachers appreciated the support and availability of school leaders in answering questions and helping with instructional approaches (NCLD, 2015). Staff support of the RTI process became the deciding factor in the program's success (NCLD, 2015). ISD 271 School District listed helping students who were caught in the middle as its greatest outcome (NCLD, 2015). Improvements in communicating with parents and teachers about individual student progress were also some of the positive outcomes at ISD 271 School District (NCLD, 2015). The number one outcome at Central Elementary was the development of a staff which constantly monitored student progress and analyzed data for the exclusive function of developing defined reading interventions (NCLD, 2015). Student achievement outcomes were positive at Central Elementary (NCLD, 2015). The principal at Jefferson Intermediate School acknowledged the overall educational system was more successful resulting in individual student needs being met more effectively

(NCLD, 2015). At Salisbury Elementary School teachers began to more effectively use evidence-based practices to address the individual needs of students (NCLD, 2015). Student outcomes improved due to staff being more focused and comfortable reviewing data and making data-based instructional decisions (NCLD, 2015). By the end of the first year of implementation at Lowther South Intermediate School, 10% of the initial 20% of intervention students moved into being accurate readers (NCLD, 2015). RTI success at Lowther resulted in the elimination of the phonics intervention program and the opportunity to implement a fluency intervention program (NCLD, 2015).

What advice would the school district leaders give others? The interventionist specialist at the ISD 271 School District encouraged teamwork and the importance of student success as the two most important goals for a district (NCLD, 2015). Open communication must be present between staff and parents to ensure RTI success (NCLD, 2015). It is not realistic to arbitrarily or quickly implement RTI. The process should be studied and implemented slowly in order for it to be most effective (NCLD, 2015).

The RTI coordinator at Central Elementary emphasized the importance of strong leadership and the use of collected data to drive decision making (NCLD, 2015). Educating team members about data analysis and providing staff professional development about reading were also listed as critical for RTI success (NCLD, 2015). Making good use of all available resources was the most important piece of advice from the Central Elementary RTI coordinator (NCLD, 2015).

The elementary principal at Jefferson Intermediate School stressed the significance of an organized and measured implementation process (NCLD, 2015). School districts attempting to do everything at once usually fail (NCLD, 2015). The

elementary principal emphasized the need to review existing student data and how it has been used in the past (NCLD, 2015). Resources already in place should be more effectively and efficiently used throughout the data analysis process (NCLD, 2015). Instead of focusing on a system implementation, each school district should develop its own RTI philosophy for what is discovered to bring the most beneficial academic interventions for all students (NCLD, 2015).

School leaders at Salisbury Elementary School listed three keys to RTI implementation success (NCLD, 2015). The first key was creating a shared vision of student success (NCLD, 2015). Leadership was listed as the second key to district RTI success (NCLD, 2015). Effective leaders need to work diligently to recruit and hire the right staff (NCLD, 2015). School leaders must then develop a collaborative work environment to support the staff throughout the RTI process (NCLD, 2015). The last leadership component was creating a master schedule to support RTI (NCLD, 2015). The third key to district RTI success at Salisbury was a clear focus on the improvement of instruction (NCLD, 2015). A continual improvement process included assessing fidelity of instruction throughout all RTI intervention tiers (NCLD, 2015).

The elementary principal at Lowther South Intermediate School recommended district leaders to find what works best at each individual school (NCLD, 2015). A perfect program does not exist and administration and staff must realize there will be some frustration periods to struggle through (NCLD, 2015). Collaboration during lesson planning and protecting intervention time were two of the keys to Lowther South Intermediate's success (NCLD, 2015).

Additional information about the school districts reviewed in this study can be obtained by accessing the *RTI Action Network* website under the *Connect With Others* tab and the *Voices from the Field* sub-tab.

Summary

Presented in this chapter was a detailed review of pertinent literature surrounding RTI processes at the elementary school level. Specifically, discussion of the various components associated with RTI included a history of RTI as it relates to the IDEA 2004; RTI structure; RTI influence on literacy and fluency instruction; existing studies about RTI; various RTI approaches, both favorable and unfavorable; and effective schools research, listing six successful programs.

A description of the research design, population and sample, instrumentation, data collection procedures, and data analysis methods were detailed in Chapter Three. Presented in Chapter Four was an analysis of the data as pertaining to the instrumentation used to obtain the data. Within Chapter Five, the conclusion and recommendations for further research were discussed.

Chapter Three: Methodology

The purpose of this research project was to determine if there was a significant difference between student achievement before implementation of RTI practices and student achievement after implementation of RTI practices. The MAP index scores in English Language Arts (ELA) for fourth grade students were used as secondary data. Even though the RTI model was originally developed as a learning strategy for students with disabilities, schools have applied the model when instructing students who are not mastering grade level objectives (Daves & Walker, 2012). This study will provide insight into the methods schools in rural areas are using and how effective RTI practices are in increasing student achievement.

Problem and Purpose Overview

There currently exists limited research regarding RTI and increased ELA student achievement in grade four in Missouri (MODESE, 2015a). Archival data will be used to conduct an analysis of 33 Missouri elementary schools utilizing RTI to determine if a difference in MAP ELA performance exists for student achievement before and after the application of RTI for grade 4. Survey data will be collected from a stratified sample of 33 elementary school principals from districts with like demographics to determine the effectiveness of RTI as a strategy to increase student achievement (Fraenkel et al., 2015).

Fourth grade reading achievement is a significant topic of study due to recent research indicating children who are successful in reading achievement by the fourth-grade are more likely to attain further success later in school and as adults (Ngwudike, 2010). Reading success by the fourth grade also is a strong indicator of future "economic prosperity of a nation, and the achievement of self-actualization" (p. 658). Students who

are proficient readers during the early elementary years are more likely to succeed academically in school and later in life. Students who learn to read well by the end of the fourth-grade year tend to succeed at school and work and are more likely to "make more meaningful contributions to their communities and humanity" (p. 659).

Research Questions and Hypotheses.

This research attempted to answer the following questions:

1. What is the difference between Missouri Assessment Program (MAP) English Language Arts scores for fourth grade students before and after the implementation of the Response to Intervention (RTI) model?

$H_0 1$. There is no difference between Missouri Assessment Program (MAP) English Language Arts scores for fourth grade students before and after the implementation of the Response to Intervention (RTI) model.

2. What is the difference between Missouri Assessment Program (MAP) English Language Arts scores for fourth grade students receiving free or reduced price meals before and after the implementation of the Response to Intervention (RTI) model?

$H_0 2$. There is no difference between Missouri Assessment Program (MAP) English Language Arts scores for fourth grade students receiving free or reduced price meals before and after the implementation of the Response to Intervention (RTI) model.

3. What is the difference between Missouri Assessment Program (MAP) English Language Arts scores for fourth grade girls and fourth grade boys before and after the implementation of the Response to Intervention (RTI) model?

$H_0$3. There is no difference between Missouri Assessment Program (MAP) English Language Arts scores for fourth grade girls and fourth grade boys before and after the implementation of the Response to Intervention (RTI) model.

Research Design

This was a quantitative study. The data disseminated throughout this study were the analysis of publically available archival data, which made this study quantitative. Test results from the Missouri Comprehensive Data System (MCDS) on the MODESE website were obtained. Reliability and validity of these results in regards to RTI effectiveness were analyzed throughout this study (MODESE, 2015a). The examiner attempted to obtain data to measure the intended variables so a difference could be determined indicating the intended relationship. Student achievement was the dependent variable throughout this study. MAP ELA achievement scores for total student populations and sub-group populations were analyzed. Response to Intervention (RTI) was the independent variable.

Instrumentation

Two instruments were used to collect the data: survey questions and de-identified secondary data obtained from the MCDS on the MODESE website. The *Response to Intervention (RTI)* survey was designed specifically for this study. A "Yes-No" format was used to determine RTI effectiveness at participating districts. A drop-down box was provided for districts to indicate the academic year of RTI implementation. If a district implemented RTI prior to the choices provided, participants were given an opportunity to provide the academic year in separate box. Questions about demographics were in a multiple-choice format. Most demographic questions offered two to three possible

response options. The survey was designed to aid the examiner in collecting a broad sampling of information directly related to RTI effectiveness and demographics of the participating districts. The questions in the survey were directly related to the research questions and conceptual framework of the study. The examiner designed all questions in the survey instrument to be brief, concise, ethical, and relevant to the study (Fraenkel et al., 2015).

A two-sample *t*-test measured a positive significance between variables. All variables were considered based on the unique circumstances at the examiner's district (District A).

Population and Sample

Participants were recruited from 117 Missouri elementary principals to determine who uses RTI. From that population, the examiner used a survey and archival data from a sample of 33 Missouri elementary principals from districts with similar demographics who utilize RTI but have no relationship to the examiner (see Figure 3). Elementary schools with like demographics and a total student population between one 150 to 400 students were first selected using the Missouri School Directory. If at least 30 Missouri elementary districts did not meet the criteria, the examiner was prepared to select districts with student populations outside, but near, the 150 to 400 parameter. This information was obtained from the MCDS portal on the MODESE website. A survey was distributed to the elementary principals to determine which elementary schools implemented RTI within parallel academic years.

Figure 3. Statewide Distribution of Participating Districts

Data Collection

The data collection process used by investigators is the most important component of determining research success or failure (Creswell, 2009); therefore, deciding which data to select becomes extremely critical. For this study, a survey and four years of school achievement data obtained from the MODESE website was utilized to collect data. MAP index scores from the MCDS on the MODESE website were obtained. Reliability and validity of these scores in regards to RTI effectiveness were determined throughout this study. The examiner strived to obtain data which would measure the intended variables so a difference could be determined indicating the intended relationship.

A hyperlink of the survey and the informed consent letter (see Appendix A) were included and attached to the recruitment email and presented to each elementary principal prior to the survey process. The elementary principals were asked to read the informed consent letter before participating in the survey. The principals were additionally asked to confirm understanding the informed consent letter by providing an electronic initial on

the last piece of the survey. Then, the *Response to Intervention (RTI)* survey (see Appendix B) was made available, electronically, to each participant.

Student achievement data (2011-2014) were collected from the MODESE website for the 33 public elementary schools selected to participate.

Limitations of the study were taken into consideration when collecting data. The effectiveness of RTI depends on the quality of the screening and progress-monitoring used by schools (Margolis, 2012). Furthermore, the understanding of RTI and various other intervention processes influenced by special education legislation was also taken into consideration (Werts et al., 2014). It was assumed the elementary principals who participated in the survey responded honestly and without bias.

Data Analysis

The data analysis included a survey instrument using various methods of dissemination. An analysis of de-identified secondary data obtained from the MCDS on the MODESE website was used. The examiner extracted MAP ELA index scores. All research data pertaining to district MAP ELA achievement can be accessed by the public on the MODESE website.

The data were organized using an established protocol. It is important to understand the amount of data reflects the number of schools using response to intervention processes. Essentially, the data could have been more limited if several schools were not using a systematic RTI model. Fortunately, a substantial number of schools who participate in RTI processes at the elementary level exist. The survey questions were tabulated, and using descriptive statistics, percentages were calculated.

The *Response to Intervention (RTI)* survey responses included a broad sampling of information directly related to RTI effectiveness and demographics of districts.

Academic achievement results from the MODESE website were obtained from each of the 33 participating elementary schools. An average, or mean, was calculated for each group.

Ethical Considerations

Valid informed consent was obtained from a stratified sample of non-District A, elementary principals who utilize RTI and have no relationship to the examiner. Valid informed consent for all survey participants was included: (1) disclosure of study procedures and potential risks to prospective research participants; (2) participant comprehension of the information, and (3) participant voluntary agreement, free of coercion and undue influence, to research participation. All participants were protected by the removal of identifiers from collected data.

This research was conducted as a partial requirement for the dissertation of the examiner through Lindenwood University and was approved before the data collection process began (see Appendix C).

Summary

Participants involved in the study included secondary data of fourth-grade composite MAP ELA results, from 33 districts. The years 2011, 2012, 2013, and 2014 were the timeline for the extraction of data during this study. Elementary principals from 33 districts in Missouri with similar demographics as District A participated in the survey instrument designed by the examiner. These elementary principals had no prior personal relationship to the examiner. Valid informed consent was obtained from non-District A,

elementary principals before conducting a survey of volunteer participants who utilize RTI in their districts. Districts with unlike demographics of District A such as population, diversity, and free/reduced priced meal participation were excluded from this study.

The administrative survey target population was a purposive sampling of 33 school districts and elementary principals who used RTI during the 2011, 2012, 2013, and 2014 school years in grade four. Purposive sampling was used instead of convenience sampling because the examiner did not simply wish to study whoever was available but rather select a sample based on prior information, fourth grade RTI use in districts with similar demographics as District A (Fraenkel et al., 2015).

In Chapter Four, an analysis of data obtained through the various data collection instruments were conducted. Each survey question was organized to include percentages of various responses. The responses were coded to identify key words, common themes, and categorize the findings. The achievement data retrieved from the MODESE website were presented.

Chapter Four: Analysis of Data

The primary purpose driving this study was to determine whether differences existed in student performance before and after the implementation of RTI for fourth grade students in rural Missouri elementary schools. Additionally, this study examined the differences among subgroup achievement before and after implementation of RTI in 33 districts with like demographics.

Survey data and archival data were collected and evaluated to contribute to the analysis. A quantitative design was the organizing guide to the analysis of the data. Quantitative data were collected through a survey and student achievement data were acquired from the MODESE website.

Quantitative data were obtained through survey responses from 33 Missouri elementary principals utilizing RTI. Demographic factors determining participants included: student population of district; rural school designation; F/R lunch data; and ethnicity data. The examiner first used the Missouri School Directory to recruit 117 districts in Missouri with like demographics to District A. A total student population between 150 to 400 students were first selected. If at least 30 Missouri elementary schools did not meet the criteria, the researcher was prepared to select districts with student populations outside, but near, the 150 to 400 parameter. Fifty-seven elementary principals responded to the survey; 43 indicated a presence of RTI processes, while 14 indicated no presence of RTI processes. Ten of the elementary schools identified as RTI districts were removed from the study for various reasons. The following survey questions were designed to help the examiner narrow the sample population in an effort to study school districts with like demographics.

Prior to obtaining the respective student achievement data, each elementary principal was contacted via electronic mail and posed the preliminary contingency question (Fraenkel et al., 2015): Does your elementary school currently utilize RTI? If the elementary principal answered yes, they were then asked to complete the remaining 13 questions about dates of implementation, fidelity of program, and student demographics. If the administrator answered no, they were asked to skip the remaining 13 questions. The dates of implementation, fidelity of program, and student demographic results were then collected.

Analysis of Quantitative Data

Survey question 1 (contingency question). Does your elementary school currently utilize RTI? (If yes, please answer following questions; if no, skip remaining questions). Of the 57 responses from elementary principals, 75.4% of the elementary schools were currently utilizing RTI. One district's MAP ELA data were not available on the MCDS portal; this district was removed from the study.

Survey question 2. Does your elementary school view RTI as not a special education or regular education program, but rather a school wide process that requires collective responsibility to ensure that all students learn? Of the 43 responses from participating elementary principals, 97.7% of the elementary schools viewed RTI as a school wide process requiring collective responsibility to ensure all students learn.

Survey question 3. Is your instructional program standards-based and research-based? Of the 43 responses from participating elementary principals, 97.7% of the elementary schools used a standards-based and research-based instructional program.

Survey question 4. Is your instructional program delivered with fidelity by highly qualified teachers? Of the 43 responses from participating elementary principals, 90.1% of the elementary schools considered their instructional program to be delivered with fidelity by highly qualified teachers.

Survey question 5. Does your elementary school universally screen all students with comprehensive literacy assessments several times a year? Of the 43 responses from participating elementary principals, 97.7% of the elementary schools universally screened all students with comprehensive literacy assessments several times a year.

Survey question 6. Does your elementary school frequently progress monitor students at risk in all tiers? Of the 43 responses from participating elementary principals, 93% of the elementary schools frequently progress monitored students at risk in all tiers.

Survey question 7. Does your elementary school know when to provide students more intensive support? Of the 43 responses from participating elementary principals, 97.7% of the elementary schools felt they know when to provide students more intensive support.

Survey question 8. Does your elementary school communicate regularly with parents and other stakeholders? Of the 43 responses from participating elementary principals, 95.3% of the elementary schools felt they regularly communicate with parents and stakeholders.

Survey question 9. What academic year did your elementary school initiate the full implementation of RTI? Of the 43 responses from participating elementary principals, 21% of the administrators noted the initiation of RTI during the 2011-2012

academic year; 16.3% during the 2009-2010 academic year; 16.3% during the 2012-2013 academic year; 14% during the 2013-2014 academic year; 14% during the 2008-2009 academic year; 9.3% during the 2010-2011 academic year; 4.7% during the 2007-2008 academic year; 2.3% during the 2004-2003 academic year; and 2.3% neglected to answer survey question number nine. Two districts were removed from the study. One district was removed due to the implementation date being beyond the inclusion of data on the MCDS portal. One district was removed for neglecting to provide the implementation date. The remaining 41 elementary principals indicated the existence of an RTI program during all or most of the 2011-2014 timeframe studied.

Survey question 10. Are there any other educational reading initiatives presently being used at your school (something other than RTI)? (If yes, please list other reading initiatives being used). Of the 43 responses from participating elementary principals, 72.1% did utilize any other reading initiatives, while 27.9% noted use of at least one more reading initiative in their elementary schools. The Accelerated Reading Program was the most commonly used initiative used at the participating schools indicating use of at least one more reading initiative, with 50% using this program.

Survey question 11. What is your total K-6 student population? Of the 43 responses from participating elementary principals, 14% of the elementary schools had ≤ 149 students, while 81.4% of the elementary schools had between 150-399 students. One participating elementary principal indicated a student population ≥ 400 students, while one elementary principal neglected to respond to the question. Of the six schools reported to have ≤ 149 students, the examiner reviewed the most updated Missouri School Directory information. Upon further review, the examiner confirmed a student

population much less than the 150 student population floor for three districts; these three districts were removed from the survey. The remaining three districts were ≤ 5 students below the 150 student population floor and remained in the study. The examiner contacted via phone the elementary principal at the one district reported to have a student population of > 400 students. The elementary principal confirmed an incorrect response to question number 11 and verbally reported a population between 150-399 students. The examiner contacted via phone the one elementary principal neglecting to respond to question number 11; this principal confirmed a population between 150-399 students.

Survey question 12. What percent of students receive free/reduced price meals at your elementary school? Of the 43 responses from participating elementary principals, 72.1% reported a free/reduced population of 60-90%, while 27.9% reported a free/reduced population of ≤ 59%. There were no participating districts with a free/reduced population of ≥91%.

Survey question 13. What is the ethnicity of your current student elementary population? There were 43 responses to this question, with 88.3% indicating an elementary school minority population of ≤ 25%. Elementary principals from four districts indicated an elementary school minority population of > 25%. The examiner contacted via phone each of these elementary principals and confirmed a minority population of >25% at two districts, while two districts incorrectly answered question number 13. Two elementary principals verbally confirmed a student minority population of ≤ 25%. The two districts indicating a minority population of >25% were removed from the study.

Survey question 14. What is the classification of the city/town where your elementary school is located? There were 43 responses to this question, with 97.7% of the elementary principals classifying their elementary school as a rural school (see Appendix B for classifications). A total of 2.3% of the elementary principals classified their elementary school as a suburban school. No schools were classified as a city school. The one school classified as a "suburban" school was removed from the study.

Research Question 1

What is the difference between Missouri Assessment Program (MAP) English Language Arts scores for fourth grade students before and after the implementation of the Response to Intervention (RTI) model?

H_01. There is no difference between Missouri Assessment Program (MAP) English Language Arts scores for fourth grade students before and after the implementation of the Response to Intervention (RTI) model.

A *t*-test was conducted for 33 schools in the sample to compare the differences between the total population MAP ELA performance before and after implementation of RTI.

There was a significant difference in the scores before ($M = 0.43$, $SD = 0.15$) and after ($M = 0.49$, $SD = 0.13$) implementation; $t(32) = 3.06$, $p = 0.00$.

Table 1

Differences Between Total Population MAP ELA Performance Before and After Implementation of RTI

	Before		After							
Outcome	*M*	*SD*	*M*	*SD*	*n*	95% CI for Mean Difference	*r*	*t*(32)	*df*	*p*
	0.43	0.15	0.49	0.13	33	0.10, 0.02	0.68	3.06	32	0.00

Note. Significance is designated at $p \leq 0.05$.

Research Question 2

What is the difference between Missouri Assessment Program (MAP) English Language Arts scores for fourth grade students receiving free or reduced price meals before and after the implementation of the Response to Intervention (RTI) model?

H_02. There is no difference between Missouri Assessment Program (MAP) English Language Arts scores for fourth grade students receiving free or reduced price meals before and after the implementation of the Response to Intervention (RTI) model.

A *t*-test was conducted for 33 schools in the sample to compare the differences between MAP ELA performance before and after implementation of RTI for those with free and reduced meal designation.

There was a significant difference in the scores before ($M = 0.34$, $SD = 0.15$) and after ($M = 0.39$, $SD = 0.14$) implementation; $t(32) = 2.41$, $p = 0.00$.

Table 2

Differences Between Free and Reduced Meal Designation Population MAP ELA Performance Before and After Implementation of RTI

	Before		After							
Outcome	*M*	*SD*	*M*	*SD*	*n*	95% CI for Mean Difference	*r*	*t*(32)	*df*	*p*
	0.34	0.15	0.39	0.14	33	0.09, 0.01	0.71	2.41	32	0.00

Note. Significance is designated at $p \leq 0.05$.

Research Question 3

What is the difference between Missouri Assessment Program (MAP) English Language Arts scores for fourth grade girls and fourth grade boys before and after the implementation of the Response to Intervention (RTI) model?

H_03. There is no difference between Missouri Assessment Program (MAP) English Language Arts scores for fourth grade girls and fourth grade boys before and after the implementation of the Response to Intervention (RTI) model.

A *t*-test was conducted for 33 schools in the sample to compare the differences between male MAP ELA performance before and male performance after implementation of RTI.

There was a significant difference in the male scores before ($M = 0.40$, $SD = 0.16$) and after ($M = 0.44$, $SD = 0.17$) implementation; $t(32) = 2.35$, $p = 0.00$.

Table 3

Differences Between Male Population MAP ELA Performance Before and After Implementation of RTI

	Before		After							
Outcome	*M*	*SD*	*M*	*SD*	*n*	95% CI for Mean Difference	*r*	*t*(32)	*df*	*p*
	0.40	0.16	0.44	0.17	33	0.09, 0.01	0.74	2.35	32	0.00

Note. Significance is designated at $p \leq 0.05$.

A *t*-test was conducted for 33 schools in the sample to compare the differences between female MAP ELA performance before and female performance after implementation of RTI.

There was a significant difference in the female scores before ($M = 0.47$, $SD = 0.17$) and after ($M = 0.53$, $SD = 0.12$) implementation; $t(32) = 2.34$, $p = 0.00$.

Table 4

Differences Between Female Population MAP ELA Performance Before and After Implementation of RTI

	Before		After							
Outcome	*M*	*SD*	*M*	*SD*	*n*	95% CI for Mean Difference	*r*	*t*(32)	*df*	*p*
	0.47	0.17	0.53	0.12	33	0.12, 0.01	0.50	2.34	32	0.00

Note. Significance is designated at $p \leq 0.05$.

Summary

From the analyses of the data sources (survey responses and student achievement), the RTI processes leading to increased student achievement was significant for all questions. Each null hypothesis was rejected, thereby providing support for each research hypothesis (Fraenkel et al., 2015, p. 228). Results indicated a

statistically significant difference in scores for all students and sub-groups of students before and after the implementation of RTI.

In Chapter Four, the examiner indicated districts with unlike demographics of District A such as population, diversity, and free/reduced lunch priced meals would be excluded from the study. Districts were excluded due to unlike populations and diversity, but because of the lack of survey participation, the examiner had to expand the free/reduced percentage from 60-90% to 50-90%. The examiner defended this modification because District A's free and reduced priced meal participation was equidistant between 50-90%.

The research conclusions regarding the significance of RTI to student progress in fourth grade students in Missouri were included in Chapter Five. Specific recommendations for future research and practice were offered, as well. Potential implications for RTI practice in District A and participating districts could be used to strategically improve RTI programs throughout the state of Missouri.

Chapter Five: Conclusions and Recommendations

The primary impetus of RTI is to assist the struggling reader to become grade level proficient (Carr & Bertrando, 2012). The State of Missouri requires RTI as a part of every school districts' special education local compliance plan (MODESE, 2015a). Additionally, Missouri state statute RSMO 167.645 requires all fourth grade students to meet third grade level reading proficiency by the end of that year or face being retained (MODESE, 2015a). The Elementary and Secondary Education Act (ESEA), NCLB Title I.A. federal law specifically invokes the use of response procedures for struggling learners (Hale et al., 2006). Schools receiving Title funds must select which intervention model they are employing (MODESE, 2015b). This study provided statistically significant data upholding RTI relevance and the benefits of RTI processes for all students.

The purpose of this research project was to determine if there is a significant difference between student achievement before implementation of RTI practices and student achievement after implementation of RTI practices. A comprehensive examination of RTI in relation to district MAP ELA results was a significant undertaking. This study assisted in determining if RTI processes yield desired results in thirty-three elementary schools throughout rural Missouri. The MAP ELA index scores for fourth grade students were used as secondary data. This study provided insight into the methods schools in rural areas are using and how effective RTI practices have increased student achievement.

This study specifically examined the effectiveness of RTI processes on MAP ELA academic achievement in thirty-three rural elementary schools in Missouri with like demographics.

Findings

RTI program effectiveness and demographic data were collected from the *Response to Intervention (RTI)* survey and publically available archival data were collected from the MCDS portal on the MODESE website. The survey consisted of 14 questions and was disseminated to 117 elementary school principals. Fifty-seven elementary principals responded to the survey. Seventy-five percent of the 57 elementary schools reported using a systematic RTI program.

Of the 43 elementary schools using RTI processes, 98% of the participating elementary principals viewed RTI as a school wide process requiring collective responsibility to ensure all students learn. Ninety-eight percent of the participating elementary schools use a standards-based and research-based instructional program. Ninety percent of the participating elementary principals considered their instructional program to be delivered with fidelity by highly qualified teachers. Ninety-eight percent of the participating elementary schools universally screen all students with comprehensive literacy assessments several times a year. Ninety-three percent of the participating elementary schools frequently progress monitored students at risk in all tiers. Ninety-eight percent of the participating elementary principals indicated their staff understands when to provide more intensive support for students. Ninety-five percent of the participating elementary principals indicated their schools regularly communicate with parents and stakeholders.

The examiner designed the survey to categorize districts based on RTI implementation dates. This was the most challenging component of the study. Initially, the examiner intended to identify at least 30 districts with like demographics to District A; in addition, each of the districts studied would have implemented RTI during the same academic school year. Upon the collection of survey data, the examiner immediately discovered it improbable to find at least 30 districts with like demographics and the same implementation date. Therefore, the examiner broadened implementation dates to cover a greater period of time. Over 60% of the participating districts indicated the initiation of RTI within the four year period (2011, 2012, 2013, and 2014) originally determined for this study. Data from districts indicating implementation before the 2010-2011 academic year were examined the year before and after implementation. Two districts were removed from the study. One district was removed due to the implementation date being beyond the inclusion of data on the MCDS portal. One district was removed for neglecting to provide the implementation date. The remaining elementary principals indicated the existence of an RTI program during all or most of the 2011-2014 timeframe studied.

Seventy-two percent of the elementary principals claiming use of RTI processes indicated no utilization of any other reading initiatives. Twenty-eight percent of the elementary principals noted use of at least one more reading initiative in their elementary schools. The Accelerated Reading Program was the most commonly used supplementary initiative.

Demographic survey data for K-6 student population revealed 14% of the elementary schools having a student population of ≤ 149 students, while 81% of the

elementary schools had between 150-399 students. One participating elementary principal indicated a student population ≥ 400 students, while one elementary principal neglected to respond to the question. Of the six schools reported to have ≤ 149 students, the examiner reviewed the most updated Missouri School Directory information. Upon further review, the examiner confirmed a student population much less than the 150 student population floor for three districts; these three districts were removed from the survey. The remaining three districts were ≤ 5 students below the 150 student population floor and remained in the study. The examiner contacted via phone the elementary principal at the one district reported to have a student population of > 400 students. This elementary principal confirmed an incorrect response to question number eleven and verbally reported a population between 150-399 students. The examiner contacted via phone the one elementary principal neglecting to respond to question number 11; this principal confirmed a population between 150-399 students.

Seventy-two percent of the elementary principals reported a free/reduced priced meal population of 60-90%, while 28% reported a free/reduced priced meal population of ≤ 59%. There were no participating districts with a free/reduced priced meal population > 90%. Ninety-three percent of the participating elementary principals indicated an elementary school minority population of ≤ 25%. Two elementary schools with a minority population > 25% were removed from the study. Ninety-eight percent of the elementary schools were classified as rural. One school was classified as suburban and was removed from the study. No schools were classified as a city school.

Publically available archival data were collected from the MCDS portal on the MODESE website. This study examined the following research questions to determine the significance of RTI to student progress in fourth grade students in Missouri.

1. What is the difference between Missouri Assessment Program (MAP) English Language Arts scores for fourth grade students before and after the implementation of the Response to Intervention (RTI) model?

Results showed a statistically significant difference in scores ($p = 0.00$) for the total student population before and after implementation of RTI. Student ELA MAP scores for the total student population appeared to increase an average of about six mean percent following the implementation of RTI.

2. What is the difference between Missouri Assessment Program (MAP) English Language Arts scores for fourth grade students receiving free or reduced price meals before and after the implementation of the Response to Intervention (RTI) model?

Results showed a statistically significant difference ($p = 0.00$) in scores for students categorized as free/reduced price meals before and after implementation of RTI. Student MAP ELA scores for students categorized as free/reduced price meals appear to increase an average of about five mean percent following the implementation of RTI.

3. What is the difference between Missouri Assessment Program (MAP) English Language Arts scores for fourth grade boys and fourth grade girls before and after implementation of the Response to Intervention (RTI) model?

Results showed a statistically significant difference ($p = 0.00$) in scores for male students before and after the implementation of RTI. Student MAP ELA scores for male

students appear to increase an average of about four mean percent following the implementation of RTI.

Results showed a statistically significant difference ($p = 0.00$) in scores for female students before and after implementation of RTI. Student MAP ELA scores for female students appear to increase an average of about six mean percent following the implementation of RTI.

Conclusions

Three research questions guided this study. Each question was designed to provide valid and reliable data for educators when considering opportunities for RTI implementation or possible improvements to existing programs. The results of this study revealed significant academic increases among all fourth grade student populations after implementation of RTI practices. The relationship of RTI and its effects on fourth grade reading success was the driving force behind this study. Ngwudike (2010) ardently emphasized the importance of fourth grade reading success and the adverse consequences for the students reading below grade level proficiency by the conclusion of the fourth grade year.

RTI is a change initiative as it forces a layered approach of identification and instructional supports (Ehren et al., 2013). The system is highly reflexive to the needs of students (Greenwood et al., 2011). Teachers are forced to open classrooms to teams of interventionists and participate in conversations about student needs (Nellis, 2012). This program supports movement to a culture of learning where students learn differently and teachers learn best practices from one another (DuFour & Mattos, 2013). The MODESE (2015b) has developed a conceptual framework for supporting systemic change. These

elements are leadership; collaborative culture; parent, family, and community partnerships; and systemic implementation (MODESE, 2015b). Implementing an intensive change initiative like RTI requires the administrator, reading coach, and teachers to develop initiatives with this conceptual framework in mind (IRA, 2010).

RTI is a wide-ranging school improvement structure with multiple moving parts (Hoover & Love, 2011). Individual classrooms and instructional support groups continue to implement many of these parts in varying degrees (Jenkins et al., 2013). Some schools implement RTI with high levels of fidelity while others continue to struggle to reach consistent outcomes (Kupzyk et al., 2012). Individual schools, districts, and states must develop appropriate and frequent evaluation plans to help determine whether or not each system is working well (MODESE, 2015b). Uncomfortable conversations may need to take place before clear and strategic RTI processes can be fully implemented with high levels of success (Ehren et al., 2013). It is difficult to make valid and informed decisions about student progress if RTI programs are not implemented with a high degrees of consistency and fidelity (McInerney & Elledge, 2013). Educators within districts where intervention programs are not implemented as planned are unable to attribute student progress or lack of progress; leaving outcomes up to speculation and luck (Hauerwas et al., 2013). Although individual students are being assessed with repeated measures, it is the consistency and relevance of instruction that is being diagnosed by informed and responsible professionals (Kupzyk et al., 2012).

The examiner interviewed an elementary principal at an outlier district exhibiting a considerable jump in MAP ELA scores after the implementation of RTI. This particular district won a national reading excellence award following the first year of

implementation. New resources and a revised building vision resulted in increased accountability. The elementary principal went on to say, "If this framework is allowed to work, great things can happen. The problem is teachers fear blame for failure rates and many times sabotage the system" (P. L. Harrison, personal communication, February 8, 2015). When questioned about the drastic increase in MAP ELA achievement after the first year of RTI implementation, the principal defended the district from the customary accusations of improprieties. According to the principal, the MODESE officials were in the elementary building every week conducting mini-observations; checking for student engagement and levels of instruction. A member of the local Regional Professional Development Center (RPDC) conducted quality assurance visits for several years during test administration. The administration non-renewed several marginal tenured teachers prior to the RTI implementation year and placed master teachers in grades one through four. The data from this district were removed from the study due to a demographic difference from District A.

Implications for Practice

This study provided important information about the significance of RTI to student academic achievement at 33 rural Missouri elementary schools with like demographics. Even though the RTI model was originally developed as a learning strategy for students with disabilities, schools may apply this model when instructing *all* students who are not mastering grade level objectives (NCLD, 2015). Effective RTI models and processes were expressed throughout the literature review; many of which could be considered for engagement by educational leaders desiring school wide literacy reform for district improvement.

The large degree of variability in the RTI data collection process and multiple definitions of RTI in general pose challenges about the consistency of implementation and effective processes (Daves & Walker, 2012). There remains no set curriculum for RTI implementation (Howell et al., 2008). The way in which the term RTI is used in education differs among those who are partaking in the program (Jenkins et al., 2013). Some supporters believe RTI is designed to benefit all students of all levels on the education spectrum. Others feel RTI is much needed in the improvisation of special education programs (Hauerwas et al., 2013). Each individual school utilizes the RTI process with uniqueness and without stringent guidelines (Howell et al., 2008). It may take several weeks before authentic data is genuinely utilized (Ball & Christ, 2012). Instead of focusing on a system implementation, each school district should develop its own RTI philosophy for what is discovered to bring the most beneficial academic interventions for all students (NCLD, 2015).

The leadership element is the seminal implementation component of RTI (DuFour & Mattos, 2013). The influence of the leader plays the most important role in guiding and executing change, managing application, ensuring authentic and appropriate professional development for staff, and planning a program for future success (Ehren et al., 2013). A collaborative culture encompasses effective communication and joint data-based decision-making processes to resolve problems to improve student learning (Nellis, 2012). Community partnerships, including parents and community patrons must support the RTI program in each LEA (Cook et al., 2012). Open communication with parents and community patrons brings value to the program and a support mechanism which generates knowledge about the educational practices in the school (Hoover & Love,

2011). Finally, if the RTI model is to succeed, a systemic implementation approach must be organized before student outcomes are positively impacted (MODESE, 2015b).

RTI can provide teachers with a consistent and direct framework for measuring student progress and making data-based instructional decisions (Appelbaum, 2009). Screening and progress monitoring are the most essential assessment functions within an RTI framework and, therefore, critical to the role of the classroom teacher (MODESE, 2015b). In order to be successful, teachers need to be well-prepared and have consistent and ongoing support (Fuchs & Bergeron, 2013).

The examiner's concern for fidelity in District A's program effectiveness was the motivation behind this study. The examiner's impartial perspective regarding the effectiveness of RTI practices was the driving force throughout this study. The examiner had no predetermined ideas about program effectiveness at District A or at any other participating program. The examiner will use the results for District A as comparative data for future program improvements.

The core focus of this study was to emphasize the importance of correcting the struggling reader at an early age (Carr & Bertrando, 2012). Correcting the struggling reader by the end of grade four will become the seminal building mission for the elementary school at District A. As a result of this research, the examiner and other participating school leaders may be better informed to determine effective processes acquired from the data studied for elementary principals and school district leaders to use to improve RTI practices in rural districts across Missouri.

Recommendations for Future Research

There are several implications for future research stemming from this study. O'Connor and Freeman (2012) aptly recognized the emergence of many questions and concerns associated with RTI implementation. There still remain a litany of districts claiming to use RTI practices without observing significant improvements in student achievement as expected (Greulich et al., 2014). RTI effectiveness depends on the implementation measures being used by schools in the areas of screening and progress-monitoring (McInerney & Elledge, 2013). Weak measures equates to a system where RTI and the students it serves will suffer (Margolis, 2012). Presently, there are no set curricula expressing how schools are to conduct or organize the RTI process (Vernon-Feagans et al., 2012).

While all findings were statistically significant, it would be prudent to echo this research with a similar study to see if like results are discovered. Statistical significance in a separate study would further validate the results of this study (Ball & Christ, 2012). The examiner encountered a few challenges during the data collection process. The lack of willing participants may have limited the validity, relevancy, and the usefulness of the data conclusions (Fraenkel et al., 2015). To expand the pool of participating elementary schools, the examiner made a slight alteration to the margins of one demographic category.

Research findings for this study may have differed had the examiner extended the selection of elementary schools beyond the state of Missouri. A larger sample size may yield different results.

This study primarily focused on RTI processes during the early elementary grades which included a data analysis about MAP ELA achievement scores for fourth grade students before and after the implementation of RTI. Much of the research and literature indicated the employment of appropriate intervention processes for students in the early elementary grades. Review of the preponderance of relevant literature exposed a few concerns about the RTI framework beyond the fourth grade year. The majority of the literature studied focused on word level and fluency skills rather than vocabulary or comprehension instruction. It would be beneficial for districts and educational leaders to consider the application of scientifically research-based advancements into the RTI framework to incorporate improved instructional practices for upper elementary grades and above (Ritchey et al., 2012).

This study revealed the necessity for strong district leadership to support any form of systemic academic change (DuFour & Mattos, 2013). Twenty-seven percentage of the participating elementary schools in this study exhibited declines in MAP ELA scores after the implementation of RTI practices; four districts exhibiting substantial declines. Via phone conversations with current district leaders, the examiner identified a similar characteristic of poor leadership in each of these four districts; either in the form of unsupportive and/or uninvolved leadership or constant leadership change over the course of several years. According to Buffum et al. (2009), our work must be driven by the knowledge our leadership energies which will help determine the success or failure of our students. When strong leadership is present, an effective collaborative culture among teachers is more likely to exist (Nellis, 2012). Parent, family, and community support groups will constructively partner with districts upon the earnest demonstration of

administration and faculty working in tandem for improved systemic change and implementation (Roe, 2013).

Summary

The purpose of this research study was to determine if there is a significant difference between student achievement before implementation of RTI practices and student achievement after implementation of RTI practices. The MAP index scores in ELA for fourth grade students were used as secondary data. This study provided insight into the methods elementary schools in rural Missouri use and how effective RTI practices are in increasing student achievement. Publically available archival data were used to conduct an analysis of thirty-three Missouri elementary schools utilizing RTI to determine if a difference in MAP ELA performance exists for student achievement before and after the application of RTI for grade 4.

Participants were recruited from 117 Missouri elementary principals to determine who uses RTI. The examiner used a survey and archival data from a population sample of fifty-seven Missouri elementary principals from districts with similar demographics which utilize RTI but have no relationship to the examiner. Elementary schools with like demographics and a total student population between one hundred fifty to four hundred students were first selected using the Missouri School Directory. The examiner was able to find 33 districts meeting this criteria. The participants of this study were 33 elementary principals from rural Missouri districts with like demographics to District A. Survey data were collected from a stratified sample of elementary school principals from districts to determine the effectiveness of RTI as a strategy to increase student achievement (Fraenkel et al., 2015).

This was a quantitative study. The data disseminated throughout this study was the analysis of publically available archival data. MAP ELA test results from the MCDS on the MODESE website were obtained. Reliability and validity of the results in regards to RTI effectiveness were analyzed throughout this study. The examiner obtained data to measure the intended variables so a difference could be determined indicating the intended relationship. Student achievement was the dependent variable throughout this study. Response to Intervention was the independent variable.

The results of this study revealed a statistically significant difference in MAP ELA scores for the total student population and each student subgroup after implementation of RTI practices. Student MAP ELA scores for all students studied appeared to increase an average of more than five mean percent.

In summary, the implementation of RTI practices in elementary school districts appear to improve grade 4 student academic performance on the MAP ELA test. School leaders may keep in mind it may take up to five years of collaborative planning before an RTI program is implemented effectively (Nellis, 2012). The implementation of RTI does not guarantee automatic increases in academic performance for all students or all schools (Scott et al., 2014). Rather, strong instructional leadership, collaboration among teachers, parent and community support, and fidelity in program implementation are the key components for attaining RTI success (Ehren et al., 2013).

Appendix A

Lindenwood University
School of Education
209 S. Kingshighway
St. Charles, Missouri 63301

Informed Consent for Participation in Research Activities

The Significance of Response to Intervention (RTI) to Student Progress in Fourth Grade Students in Missouri

Principal Investigator Merlyn Johnson

Telephone: 417-932-4045 E-mail: johnson@sville.k12.mo.us

Participant_____ Contact info_____

---

1. You are invited to participate in a research study conducted by Merlyn Johnson under the guidance of Dr. Julie Williams. The purpose of this research is to determine if RTI has a significant impact on the academic achievement of fourth grade students.

2. a) Your participation will involve:

   - Archival Missouri Assessment Program (MAP) data will be used to conduct an analysis of multiple schools to determine the impact of RTI on student academic achievement. Findings from this research may lead to improved understanding of procedures for selecting scientifically based instruction/curricula or improved secondary and tertiary interventions with the context of RTI in regards to improved performance on grade level assessments.

   - This study will focus on grade four in 30-50 Missouri elementary school districts presently utilizing RTI. Data will compare achievement between male and female students, students receiving free/reduced price meals, and comprehensive school data. The investigator will examine scores before and after implementation of RTI to determine if there is a difference in student achievement.

   b) The amount of time involved in your participation will be less than five minutes.

   30-50 Missouri elementary schools utilizing RTI will be involved in this research. Lindenwood University will be the single research site.

3. There are no anticipated risks associated with this research.

4. There are no direct benefits for you participating in this study. However, your participation will contribute to the knowledge about the impact of RTI on student achievement which may provide opportunities for progress and growth at your district.

5. Your participation is voluntary and you may choose not to participate in this research study or to withdraw your consent at any time. You may choose not to answer any questions that you do not want to answer. You will NOT be penalized in any way should you choose not to participate or to withdraw.

6. We will do everything we can to protect your privacy. As part of this effort, your identity will not be revealed in any publication or presentation that may result from this study and the information collected will remain in the possession of the investigator in a safe location.

7. If you have any questions or concerns regarding this study, or if any problems arise, you may call the Investigator, Merlyn Johnson at 417-[redacted] or the Supervising Faculty, Dr. Julie Williams at 417-256-6150. You may also ask questions of or state concerns regarding your participation to the Lindenwood Institutional Review Board (IRB) through contacting Dr. Jann Weitzel, Vice President for Academic Affairs at 636-949-4846.

I have read this consent form and have been given the opportunity to ask questions. I will also be given a copy of this consent form for my records. I consent to my participation in the research described above.

_____	_____
Participant's Signature Date	Participant's Printed Name
_____	_____
Signature of Principal Investigator Date	Investigator Printed Name

Revised 1-21-2010

Appendix B

Response to Intervention (RTI)
Survey

You are invited to participate in a research study conducted by Merlyn Johnson. The purpose of this research is to determine if RTI has a significant impact on the academic achievement of fourth grade students in Missouri.

NAME OF SCHOOL:

NAME OF ADMINISTRATOR:

1. Does your elementary school currently utilize RTI?
    a. Yes
    b. No

(If yes, please answer following questions)
(If no, skip remaining questions)

2. Does your elementary school view RTI as not a special education or regular education program, but rather a school wide process that requires collective responsibility to ensure that all students learn?
    a. Yes
    b. No

3. Is your instructional program standards-based and research-based?
    a. Yes
    b. No

4. Is your instructional program delivered with fidelity by highly qualified teachers?
    a. Yes
    b. No

5. Does your elementary school universally screen all students with comprehensive literacy assessments several times a year?
    a. Yes
    b. No

6. Does your elementary school frequently progress monitor students at risk in all tiers?
    a. Yes
    b. No

7. Does your elementary school know when to provide students more intensive support?
    a. Yes
    b. No

8. Does your elementary school communicate regularly with parents and other stakeholders?
    a. Yes

b. No

9. What academic year did your elementary school initiate the full implementation of RTI?
    a. 2013-2014
    b. 2012-2013
    c. 2011-2012
    d. 2010-2011
    e. 2009-2010
    f. Prior to 2009

(If you answered "Prior to 2009", please list the first full implementation year)

_____

10. Are there any other educational reading initiatives presently being used at your school (something other than RTI)?
    a. Yes
    b. No

(Please list other reading initiatives being used (other than RTI)

_____

_____

_____

11. What is your total K-6 student population?
    a. ≤149 students
    b. 150-399 students
    c. ≥400 students

12. What percent of students receive free/reduced price meals at your elementary school?
    a. ≤59%
    b. 60-90%
    c. ≥91%

13. What is the ethnicity of your current student elementary population?
    a. ≤25% minority
    b. ≥25% minority

14. What is the classification of the city/town where your elementary school is located?
    a. Rural
    b. Suburban
    c. City

Appendix C

Disposition (Approval) Letter from IRB Committee

LINDENWOOD

LINDENWOOD UNIVERSITY ST. CHARLES, MISSOURI

DATE:	February 4, 2015
TO:	Merlyn Johnson
FROM:	Lindenwood University Institutional Review Board
STUDY TITLE:	[698771-1] The Significance of Response to Intervention (RTI) to Student Progress in Fourth Grade Students in Missouri
IRB REFERENCE #:	
SUBMISSION TYPE:	New Project
ACTION:	APPROVED
APPROVAL DATE:	February 4, 2015
EXPIRATION DATE:	February 4, 2016
REVIEW TYPE:	Expedited Review

Thank you for your submission of New Project materials for this research project. Lindenwood University Institutional Review Board has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a study design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Expedited Review based on the applicable federal regulation.

Please remember that informed consent is a process beginning with a description of the study and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the study via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the signed consent document.

Please note that any revision to previously approved materials must be approved by this office prior to initiation. Please use the appropriate revision forms for this procedure.

All SERIOUS and UNEXPECTED adverse events must be reported to this office. Please use the appropriate adverse event forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to the IRB.

This project has been determined to be a project. Based on the risks, this project requires continuing review by this committee on an annual basis. Please use the completion/amendment form for this procedure. Your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date of February 4, 2016.

Please note that all research records must be retained for a minimum of three years.

If you have any questions, please contact Robyne Elder at (314) 566-4884 or relder@lindenwood.edu. Please include your study title and reference number in all correspondence with this office.

If you have any questions, please send them to IRB@lindenwood.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Lindenwood University Institutional Review Board's records.

References

Al Otaiba, S., Connor, C.M., Folsom, J.S., Wanzek, J., Greulich, L., Schatschneider, C., & Wagner, R.K. (2014). To wait in tier 1 or intervene immediately: A randomized experiment examining first-grade response to intervention in reading. *Exceptional Children, 81*(1), 11-27.

Al Otaiba, S., Wagner, R. K., & Miller, B. (2014). "Waiting to fail" redux: Understanding inadequate response to intervention. *Learning Disability Quarterly, 37*(3), 129-133.

American Psychological Association. (2010). *Publication manual of the American Psychological Association* (6th ed.). Lancaster, PA: Author.

Appelbaum, M. (2009). *The one-stop guide to implementing RTI: Academic and behavioral interventions, K-12.* Thousand Oaks, CA: Corwin Press.

Associated Press, The (2014, December 26). Poor, rural students get less experienced teachers. *The Kansas City Star.* Retrieved from http://www.kansascity.com/news/state/missouri/article5000475.html#/tabPane=tabs-a7245120-1

Ball, C. R., & Christ, T.J. (2012). Supporting valid decision making: Uses and misuses of assessment data within the context of RTI. *Psychology in the Schools, 49*(3), 231-244.

Bender, W. N., & Shores, C. (2007). *Response to intervention: A practical guide for every teacher.* Thousand Oaks, CA: Corwin Press.

Bernhardt, V. L. (2013). *Data analysis for continuous school improvement.* New York: Routledge.

Blanchett, W. J., Klingner, J. K., & Harry, B. (2009). The intersection of race, culture, language, and disability: Implications for urban education. *Urban Education, 44*(4), 389–409.

Brozo, W. G. (2010). The role of content literacy in an effective RTI program. *Reading Teacher, 64*(2), 147-150.

Buffum, A., & Mattos, M. (2008). *How will we respond when students don't learn?* Retrieved from http://www.allthingsplc.info/wordpress/?p=60.

Buffum, 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.

Byrd, E. S. (2011). Educating and involving parents in the response to intervention process: The school's important role. *Teaching Exceptional Children, 43*(3), 32-39.

Carr, J., & Bertrando, S. (2012). Top 10 instructional strategies for struggling students. *Leadership, 42*(1), 24-38.

Carreker, S., & Joshi, R. (2010). Response to intervention: Are the emperor's clothes really new? *Psicothema, 22*(4), 943-948.

Cassidy, J., & Ortlieb, E. (2012). Looking at literacy in the 21st century. *Clearing House, 85*(4), 141-145.

Clark, R., Morrison, T. G., & Wilcox, B. (2009). Readers' theater: A process of developing fourth-graders reading fluency. *Reading Psychology, 30*(4), 359-385.

Cook, B. B., Shepherd, K. G., Cook, S. C., & Cook, L. (2012). Facilitating the effective implementation of evidence-based practices through teacher-parent collaboration. *Teaching Exceptional Children, 44*(3), 22-30.

Creswell, J. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches.* Thousand Oaks, CA: SAGE Publications.

Daggett, W. (2003). *Achieving reading proficiency for all.* (p. 10). Rexford, New York: International Center for Leadership in Education. Retrieved from http://www.leadered.com/pdf/Reading%20White%20Paper.pdf

Daves, D. P., & Walker, D. W. (2012). RTI: Court and case law–confusion by design. *Learning Disability Quarterly, 35*(2), 68-71.

Desimone, L. I. (2013). Reform before NCLB. *Phi Delta Kappan, 94*(8), 59-61.

DuFour, R., & Mattos, M. (2013). How do principals really improve schools?. *Educational Leadership, 70*(7), 34-40.

Ehren, B. B., Lipson, M. M., & Wixson, K. K. (2013). Expanding pockets of excellence in RTI. *Reading Teacher, 66*(6), 449-453.

Fien, H., Santoro, L., Baker, S. K., Park, Y., Chard, D. J., Williams, S., & Haria, P. (2011). Enhancing teacher read alouds with small-group vocabulary instruction for students with low vocabulary in first-grade classrooms. *School Psychology Review, 40*(2), 307-318.

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2015). *How to design and evaluate research in education.* New York: McGraw-Hill.

Fuchs, W. W., & Bergeron, B. S. (2013). Viewpoints from the field: Impressions from teachers and administrators on the challenges and successes of RTI implementation in Illinois. *Illinois Reading Council Journal, 41*(2), 3-12.

Fuchs, D., Fuchs, L. S., & Compton, D. L. (2012). Smart RTI: A next-generation approach to multilevel prevention. *Exceptional Children, 78*(3), 263-279.

Fuchs, L. S., Fuchs, D., & Compton, D. L. (2004). Monitoring early reading development in first grade: Word identification fluency versus nonsense word fluency. *Exceptional Children, 71*(1), 7-21.

Gillam, S., & Justice, L. (2010). RTI progress monitoring tools. *ASHA Leader, 15*(11), 12-15.

Greenwood, C. R., Bradfield, T., Kaminski, R., Linas, M., Carta, J. J., & Nylander, D. (2011). The response to intervention (RTI) approach in early childhood. *Focus on Exceptional Children, 43*(9), 1-22.

Greulich, L., Al Otaiba, S., Schatschneider, C., Wanzek, J., Ortiz, M., & Wagner, R. K. (2014). Understanding inadequate response to first-grade multi-tier intervention: Nomothetic and ideographic perspectives. *Learning Disability Quarterly, 37*(4), 204-217.

Guskey, T. R., & Jung, L. A. (2011). Response-to-intervention and mastery learning: Tracing roots and seeking common ground. *Clearing House, 84*(6), 249-255.

Hale, J. B., Kaufman, A., Naglieri, J. A., & Kavale, K. A. (2006). Implementation of IDEA: Integrating response to intervention and cognitive assessment methods. *Psychology In The Schools, 43*(7), 753-770.

Hauerwas, L., Brown, R., & Scott, A.N. (2013). Specific learning disability and response to intervention: State-level guidance. *Exceptional Children, 80*(1), 101-120.

Hewitt, P. M. (2011). Teaching with poverty in mind: What being poor does to kids' brains and what school can do about it. *School Administrator, 68*(4), 45.

Higgins-Averill, O., Baker, D., & Rinaldi, C. (2014). A blueprint for effectively using RTI intervention block time. *Intervention in School & Clinic, 50*(1), 29-38.

Hooker, S., & Brand, B. (2010). College knowledge: A critical component of college and career readiness. *New Directions for Youth Development. 2010*(127), 75-85.

Hoover, J. J., & Love, E. (2011). Supporting school-based response to intervention: A practitioner's model. *Teaching Exceptional Children, 43*(3), 40-48.

Howell, R., Patton, S., & Deiotte, M. (2008). *Understanding response to intervention: A practical guide to systemic implementation.* Bloomington, IN: Solution Tree.

Iaquinta, A. (2006). Guided reading: A research-based response to the challenges of early reading instruction. *Early Childhood Education Journal, 33*(6), 413-418.

International Reading Association. (2010). *Response to intervention: Guiding principles for educators.* Newark, DE: International Reading Association.

Jenkins, J. R., Schiller, E., Blackorby, J., Thayer, S., & Tilly, W. (2013). Responsiveness to intervention in reading: Architecture and practices. *Learning Disability Quarterly, 36*(1), 36-46.

Kovaleski, J., VanDerHeyden, A., & Shapiro, E. (2013). *The RTI approach to evaluating learning disabilities.* New York, NY: Guilford Press.

Kupzyk, S., Daly, E. J., Ihlo, T., & Young, N. D. (2012). Modifying instruction within tiers in multitiered intervention programs. *Psychology in the Schools, 49*(3), 219-230.

Lemov, D. (2010). *Teach like a champion: 49 techniques that put students on the path to college.* San Francisco: Jossey-Bass.

Lykins, C. I. (2012). Why "what works" still doesn't work: How to improve research syntheses at the what works clearinghouse. *Peabody of Education, 87*(4), 500-509.

Mandinach, E. B. (2012). A perfect time for data use: Using data-driven decision making to inform practice. *Educational Psychologist, 47*(2), 71-85.

Manthey, G. (2011). Bracketology: The most influential book. *Leadership, 40*(5), 30.

Margolis, H. (2012). Response to intervention: RTI's linchpins. *Reading Psychology, 33*(1/2), 8-10.

Marquis-Hobbs, T. (2014). Enriching the lives of students in poverty. *Education Digest, 80*(4), 34-39.

McEwan, E. K., & McEwan, P. J. (2003). *Making sense of research: What's good, what's not, and how to tell the difference.* Thousand Oaks, CA: Corwin Press, Inc.

McInerney, M., & Elledge, A. (2013). Using a response to intervention framework to improve student learning: A pocket guide for state and district leaders. *American Institutes for Research.* Retrieved from *http://www.rti4success.org/sites/default/files/Response_to_Intervention_Pocket_Guide_2.pdf*

McNeil, M. (2013). Commission urges action on education equity. *Education Week, 32*(22), 17-20.

McTigue, E. M., Washburn, E. K., & Liew, J. (2009). Academic resilience and reading: Building successful readers. *Reading Teacher, 62*(5). 422-432.

Mellard, D., McKnight, M., & Jordan, J. (2010). RTI tier structures and instructional intensity. *Learning Disabilities Research & Practice (Wiley-Blackwell), 25*(4), 217-225.

Mellard, D., Stern, A., & Woods, K. (2011). Focus on exceptional children. *Focus On Exceptional Children, 43*(6), 1-15.

Minnetonka Public Schools Local Literacy Plan. (n.d.). Retrieved from http://www.minnetonka.k12.mn.us/academics/eled/Documents/Local%20Literacy%20Plan.pdf

Missouri Department of Elementary and Secondary Education. (June, 2008). *State of Missouri RTI Guidelines, Appendix A.* Retrieved from http://dese.mo.gov/sites/default/files/rtiguidelines08.pdf

Missouri Department of Elementary and Secondary Education. (2015a). Retrieved from http://dese.mo.gov/

Missouri Department of Elementary and Secondary Education. (2015b). *Missouri Response to Intervention: Conceptual Framework.* Retrieved from http://dese.mo.gov/sites/default/files/conceptualframeworkofrtiinmissouri.pdf

Missouri Department of Elementary and Secondary Education. (2015c). *Response to Intervention: Quick Links.* Retrieved from http://dese.mo.gov/special-education/three-tiered-models-intervention/response-intervention

Moores, D. F. (2008). Improving academic achievement: Can a response-to-intervention (RTI) model help?. *American Annals of the Deaf,* 347-348.

National Center for Learning Disabilities (NCLD), Inc. (2015). *RTI Action Network.* Retrieved from http://www.rtinetwork.org/

Nellis, L. M. (2012). Maximizing the effectiveness of building teams in response to intervention implementation. *Psychology in the Schools, 49*(3), 245-256.

Ngwudike, B. C. (2010). Progress in international reading literacy study (PIRLS) 2001 and 2006. Reading literacy achievement of America's fourth-grade students in a national and international context. *NAAAS & Affiliates Conference Monographs,* 658-673.

Noltemeyer, A. L., Joseph, L. M., & Kunesh, C. E. (2013). Effects of supplemental small group phonics instruction on kindergartens' word recognition performance. *Reading Improvement, 50*(3), 121-131.

Noltemeyer, A., Joseph, L. M., & Watson, M. (2014). Improving reading prosody and oral retell fluency: A comparison of three intervention approaches. *Reading Improvement, 51*(2), 221-232.

Nunn, G. D., Jantz, P. B., & Butikofer, C. (2009). Concurrent validity between teacher efficacy and perceptions of response to intervention outcomes. *Journal of Instructional Psychology, 36*(3), 215-218.

O'Connor, E. P., & Freeman, E. (2012). District-level considerations in supporting and sustaining RTI implementation. *Psychology in the Schools, 49*(3), 297-310.

Ortlieb, E., Grandstaff-Beckers, G., & Cheek, E. H. (2012). Fostering reading excellence at every level of school through reading clinics. *Clearing House, 85*(1), 1-6.

Parents as Teachers (PAT) National Center, Inc. (2015). *A Path to Quality Growth and Sustainability: 2012-2015 Strategic Plan.* Retrieved from http://www.parentsasteachers.org/

Pascopella, A. (2010). RTI goes mainstream. *District Administration, 46*(4), 45-49.

Pearson Education, Inc. (2009). *AIMSweb: Progress monitoring and RTI System.* Retrieved from https://datacentral.esboces.org/Portals/0/Documents/AssessmentSupport/AIMSWeb/AIMSweb%20Brochure.pdf

Pedrotty Bryant, D. (2014). Tier 2 intervention for at-risk first-grade students within a response-to-intervention model of support. *School Psychology Review, 43*(2), 179-184.

Pitcher, S. M., Martinez, G., Decembre, E. A., Fewster, D., & McCormick, M. K. (2010). The literacy needs of adolescents in their own words. *Journal of Adolescent & Adult Literacy, 53*(8), 636-645.

Reeves, D. B. (2010). *Transforming professional development into student results.* Alexandria, VA: Association for Supervision and Curriculum Development.

Ritchey, K. D., Silverman, R. D., Montanaro, E. A., Speece, D. L., & Schatschneider, C. (2012). Effects of a tier 2 supplemental reading intervention for at-risk fourth-grade students. *Exceptional Children, 78*(3), 318-334.

Robins, J., & Antrim, P. (2013). Planning for RTI. *Knowledge Quest, 42*(1), 44-47.

Roe, C. (2013). Attaining success: Tips for new principals. *Leadership, 42*(4), 28.

Schmoker, M. (2008). Measuring what matters. *Educational Leadership, 66*(4), 70-74.

Schmoker, M. (2012). Can schools close the gap?. *Phi Delta Kappan, 93*(7), 70-71.

Scott, A. N., Hauerwas, L. B., & Brown, R. D. (2014). State policy and guidance for identifying learning disabilities in culturally and linguistically diverse students. *Learning Disability Quarterly, 37*(3), 172-185.

Shaw, A. (2010). Bridging curriculum access through differentiation, part 1: Historical and background perspectives. *Exceptional Parent, 40*(4), 32-33.

Shinn, M. R. (2007). Identifying students at risk, monitoring performance, and determining eligibility within response to intervention: Research on educational need and benefit from academic intervention. *School Psychology Review, 36*(4), 601-617.

Spencer, M., Wagner, R.K., Schatschneider, C., Quinn, J. M., Lopez, D., & Petscher, Y. (2014). Incorporating RTI in a hybrid model of reading disability. *Disability Quarterly, 37*(3), 161-171.

STAR Reading data –District A Renaissance Learning Program (2014)

United States Department of Education. (2015). *Building the legacy; IDEA 2004.* Retrieved from idea.ed.gov/explore/view/p/,root,regs,300,D,300%252E307

Vernon-Feagans, L., Kainz, K., Amendum, S., Ginsberg, M., Wood, T., & Bock, A. (2012). Targeted reading intervention: A coaching model to help classroom teachers with struggling readers. *Learning Disability Quarterly, 35*(2), 102-114.

Walker-Dalhouse, D., Risko, V. (2008). Homelessness, poverty, and children's literacy development. *Reading Teacher*. September 1, 2008; 62(1): 84-86.

Wanzek, J., & Roberts, G. (2012). Reading interventions with varying instructional emphases for fourth graders with reading difficulties. *Learning Disability Quarterly, 35*(2), 90-101.

Wanzek, J., & Vaughn, S. (2011). Is a three-tier reading intervention model associated with reduced placement in special education? *Remedial and Special Education, 32*(2), 167–175.

Wanzek, J., Wexler, J., Vaughn, S., & Ciullo, S. (2010). Reading interventions for struggling readers in the upper elementary grades: A synthesis of 20 years of research. *Reading and Writing: An Interdisciplinary Journal*, *23*(8), 889-912.

Watts-Taffe, S., Laster, B., Broach, L., Marinak, B., McDonald Conner, C., & Walker-Dalhouse, D. (2012). Differentiated instruction: Making informed teacher decisions. *Reading Teacher, 66*(4), 303-314.

Werts, M. G., Carpenter, E. S., & Fewell, C. (2014). Barriers and benefits to response to intervention: Perceptions of special education teachers. *Rural Special Education Quarterly, 33*(2), 3-11.

Witte, S., Beemer, J., & Arjona, C. (2010). "Re-vision": Our journey in developing a secondary literacy plan. *American Secondary Education, 39*(1), 15-26.

Wixon, K. K., & Lipson, M. Y. (2012). Relations between the CCSS and RTI in literacy and language. *Reading Teacher, 65*(6), 387-391.

Wright, J. (2007). *RTI toolkit: A practical guide for schools.* Port Chester, NY: Dude Publishing.

Zirkel, P. A. (2011). RTI confusion in the case law and the legal commentary. *Learning Disability Quarterly*, *34*(4), 242-247.

Zirkel, P. A. (2013). The hale position for a “third method” for specific learning disabilities identification: A legal analysis. *Learning Disability Quarterly, 36*(2), 93-96.

Vita

Merlyn Johnson currently serves as superintendent of schools in a rural school in south central Missouri. Prior administrative experience includes working as a high school principal, transportation director, and activities director. Prior teaching experiences include social studies, science, and mathematics at the secondary level. He also taught general education courses to inmates in the Arkansas prison system. Areas of professional interest include human resources, instruction, and fiscal procedures.

Merlyn holds an educational specialist degree in district-wide educational administration from Southeast Missouri State University, a master's degree in secondary educational administration from Southeast Missouri State University, and a bachelor's degree in social studies from Williams Baptist College.