5-2018

Implementation of Response to Intervention (RTI) and a Multi-Tiered System of Support (MTSS): A Case Study Examination of One School District in Minnesota

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by

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A Dissertation

Submitted to the Graduate Faculty of

St. Cloud State University

in Partial Fulfillment of the Requirements

for the Degree

Doctor of Education

in Educational Administration and Leadership

May, 2018

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Abstract

The study examined implementation of a Response to Intervention (RTI) and Multi-Tiered System of Support (MTSS) framework in a one school district in Minnesota in November and December 2017. The purpose of the study was to examine how policies, procedures, and implementation strategies created the conditions that resulted in implementation of an MTSS and replacement of the IQ-achievement discrepancy with an RTI measure in a comprehensive special education evaluation for specific learning disability (SLD).

Findings revealed the importance of establishing an RTI/MTSS framework at the school district level and the use of implementation science to build a coordinated and aligned system across all schools. In addition, clear guidelines and a high level of procedural specificity can help ensure fidelity in the delivery of interventions, the integrity of the problem-solving process, and the application of valid and reliable decision rules.

Professional development designed to address the conceptual, procedural, and technical aspects of an RTI/MTSS framework will enhance both teacher buy-in and the skills and knowledge of those assigned to provide intervention and engage in the problem-solving process. School districts would be advised to leverage the expertise of school psychologists with this work. Finally, the role of school principals was revealed to be critical. School building leaders need to be knowledgeable about the RTI/MTSS framework, and actively engaged in day-to-day implementation, leveraging both technical and adaptive leadership skills as needed.

Acknowledgements

Completing the Doctorate of Education program has been a personal and professional goal of mine for many years. However, I would not have been able to accomplish this goal without the support and encouragement of family, friends, and colleagues. I would like to begin by acknowledging the courageous and inspiring educational leaders and teachers in the school district and education district who agreed to participate in the study. Thank you for your welcome, wisdom, insight, and commitment to the research process.

I am also grateful beyond words to my dissertation committee members and members of my cohort at St. Cloud State University. Dr. Kay Worner, Dr. Roger Worner, Dr. Plamen Mitenoff, and Dr. John Eller–your contribution to the field of educational research in Minnesota is admirable and the guidance you have provided to me has been truly appreciated. Cohort colleagues - your encouragement made all the difference.

Finally I would like to thank my family. To my children–Róisín, Gavan, and Ciara–you are my daily inspiration. Watching you grow, expand your horizons, seek knowledge and truth through education, and impact the world for better through your passions is the greatest joy of my life. To my husband and life-partner, Garth Gideon, your unwavering love, presence, and support for the last thirty years has been the greatest gift of my life.

Dedication

This dissertation is dedicated to teachers, social workers, school psychologists, school nurses, non-certified paraprofessionals, custodians, food service and transportation personnel, clerical support staff, and administrators everywhere who work to improve the lives of the children they serve on a daily basis. I am inspired and humbled by those of you I currently work alongside and those I have had the privilege of working with in the past.

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Chapter I: Introduction

Introduction

Since the end of the 19th century, educators and physicians have documented children with unexpected difficulty in learning. According to Fuchs, Mock, Morgan, and Young (2003) this difficulty is described as 'unexpected' when it is observed in children with at least average intellectual ability and when it cannot be explained by any observable factors or physical limitations. These challenges appear most frequently in reading and writing but are also experienced by some in mathematics. Over time, this phenomenon became known as a learning disability (Fuchs et al., 2003).

In 1974, the Education for All Handicapped Children Act (EHA) recognized the existence of a Specific Learning Disability (SLD) for the first time. In this legislation an SLD was defined as "a disorder of one or more of the basic psychological processes involved in understanding or using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell or to do mathematical calculations" (Kratochwill, Volpiansky, Clements, & Ball, 2007, p. 28). Kovaleski, VanDerHeyden and Shapiro (2013) described the enactment of EHA 1974 as a pivotal event because it guaranteed the right to a 'free and appropriate' public education for children with disabilities for the first time in the history of American public education (p. 1). Under EHA 1974 legislation the procedures for identification of a specific learning disability (SLD) were described as follows:

> A team may determine that a child has a specific learning disability if: (1) The child does not achieve commensurate with his or her age and ability levels in one or more of the following areas listed in paragraph (a)(2) of this section, when provided with learning experiences appropriate for the child's age and ability level and (2) The team finds the child has a severe discrepancy between achievement and ability in one or more of the following areas: (i) Oral Expression; (ii) Listening Comprehension; (iii) Written

> Expression; (iv) Basic reading skills; (v) Reading comprehension; (vi) Mathematics calculation; (vii) Mathematics reasoning. (US Department of Education USODE, 1977, p. 65083)

This definition recognized the understanding of an SLD as an "unexpected" difficulty in learning relative to "ability" but did not provide guidance on how the severe discrepancy should be quantified (Kovaleski et al., 2013). In the absence of guidelines, school practitioners began to use the following method: First, IQ was used as a measure of intellectual functioning or "ability." Second, performance on norm-referenced academic tests was used to represent "achievement." A learning disability was revealed when a discrepancy existed between the two and the child did not achieve "commensurate with his or her age and ability" (Maki, Floyd, & Roberson, 2015).

Within a short time, researchers began to question the validity and reliability of this methodology to either correctly identify a learning disability or provide information to guide educational practices for meeting the needs of students with this disability (Fuchs et al., 2003; Kovaleski et al., 2013; Scanlon, 2013; Torgeson, 1986). Researchers also became concerned with the increase in numbers of children enrolled in public schools who were being identified with an SLD between 1977 and 1990 and an overrepresentation of male and minority students in special education (Kovaleski et al., 2013, p. 3). These findings were seen as evidence of problems resulting from the absence of a stable definition and understanding of the construct of a learning disability and, as a result, a lack of a valid and reliable measure for identification of this disability (Kovaleski et al., 2013).

In preparation for the 2004 reauthorization of EHA, the President's Commission on Excellence in Special Education heard extensive testimony from researchers and practitioners

about various topics in special education (Kovaleski et al., 2013, p. 8). One of the recommendations contained in the commission's final report was to change the method of identifying an SLD (Kovaleski et al., 2013). Following these recommendations, the Individuals with Disabilities Education Improvement Act (IDEIA) 2004 prohibited states from requiring schools to use an IQ-achievement discrepancy measure for identifying an SLD. As an alternative, this legislation allowed the use of a process called Response to Intervention (RTI). It stated, "a local education agency *shall not be required* to take into consideration whether a child has a severe discrepancy between achievement and intellectual ability" (Jimerson, Burns, & VanDerHeyden, 2007, p. 3). Instead, IDEIA (2004) "permits the use of data **(*response*)** obtained when scientifically based intervention is implemented with a student ***(to intervention*)** to make eligibility decisions under LD" (p. 3).

In support of intervention efforts, IDEIA 2004 also provided funding for early intervention and prevention services (Fuchs, Fuchs, & Vaughn, 2008; Nelson, Oliver, Herbert, & Bohaty, 2015; Kratochwill et al., 2007). The potential for the changes brought about by this legislation to promote prevention through early intervention and provide a more valid and reliable method to identify an SLD was seen as positive by numerous researchers and practitioners (Fuchs, Fuchs, & Stecker, 2010). However, once again experts disagreed, and some quickly began to raise concerns and challenged the reliability and validity of simply considering a student's low academic achievement and level of responsiveness to an intervention to determine the existence of a learning disability. Some researchers believed that under pressure to change, an ineffective model had simply been replaced with one that was very much untested (Reynolds & Shaywitz, 2009a).

While the scientific community continued to debate, state departments of education began to provide guidelines for implementation of RTI, and schools slowly began to integrate some of the basic tenets of this new (RTI) model (Zirkel & Thomas, 2010). A significant number of states and school districts have operationalized the use of RTI in a system that has become known as a Multi-Tiered System of Support (MTSS) (National Joint Commission on Learning Disabilities [NJCLD], 2005). The conceptual framework of an MTSS recognizes the complex and interrelating factors involved in ensuring the academic and social-emotional success of all children (Eagle, Dowd-Eagle, Snyder, & Holtzman, 2015).

According to Eagle, Dowd-Eagle, Snyder, and Holtzman (2015) the concept of an MTSS merges academic RTI efforts with programs designed to support students' social-emotional development such as Positive Behavioral Interventions and Support (PBIS). Additionally, an MTSS framework recognizes that ownership and responsibility for the RTI process does not reside with special education educators alone nor does it simply serve as a mechanism to determine if a student is learning disabled. In contrast, an MTSS involves all educators in the systematic use of data and scientifically based instruction to improve outcomes for all students (Eagle et al., 2015; Fuchs, Fuchs, & Stecker, 2010; Nelson et al., 2015). Student response data obtained as part of the process can provide evidence to indicate the existence of a learning disability. Fletcher and Vaughn (2009) described this as follow:

> The primary goal of RTI is the prevention and remediation of academic and behavioral difficulties through effective classroom instruction and increasingly intense intervention. A secondary goal of RTI is the provision of useful data that contributes to referral and decision-making about students with LD (p. 35).

Fuchs, Fuchs, and Compton (2012) described the implementation of RTI in an MTSS as "a fundamental rethinking and reshaping of general education into a multilevel system oriented

toward early intervention and prevention" (p. 264). While IDEIA 2004 allowed for the use of RTI as a process for the identification of students with learning disabilities, this legislation did not provide specific guidelines regarding effective implementation of this framework or a methodology for quantifying student response to an intervention with reliability and validity (Fuchs et al., 2012). Researchers agreed on the challenges of implementing an MTSS and the importance of knowledgeable and skilled district and school leadership in this endeavor (Bean & Lillenstein, 2012; Burns et al., 2013; Donnell & Gettinger, 2015; Meyer & Behar-Horenstein, 2015; Palenchar & Boyer, 2008; Shepherd & Salembier, 2011).

Concerns regarding RTI existed in three main areas. The first was the psychometric challenge of reliably determining 'response' in 'response to intervention'. The use of data to determine adequate responses and move students between tiers, including the decision to move forward with a comprehensive special education evaluation, remains one of the most challenging implementation components. As stated by Fuchs, Fuchs, and Compton (2004):

> … this is important because a major criticism of the IQ-achievement discrepancy as a method of LD identification is the unreliability of the diagnosis. Practitioners relying on an assortment of assessment procedures in an RTI framework may produce similarly unreliable diagnoses" (p. 225).

The second concern is with the possible continued exclusion of higher achieving students with reading disabilities. Reynolds and Shaywitz (2009b) argued that because the starting place for consideration of a learning disability in an MTSS system is global screening of students for low academic performance, bright students with a reading disability could still be excluded. According to these authors this process "fails to adhere to the basic concept of LD" as an "unexpected" difficulty (p. 46).

The third concern with RTI is the most significant implementation challenge faced by school leaders. This involves ensuring fidelity in the delivery of evidence-based interventions, also known as treatment validity (Burns et al., 2013; Nelson et al., 2015; Reynolds & Shaywitz, 2009b). A fundamental assumption underlying the use of data in decision-making is the assurance that the data were obtained in an educational environment in which evidence-based practices occurred. Burns et al. (2013) identified lack of implementation integrity as a serious threat to the validity of RTI and discussed the challenges of scaling up small studies which demonstrated the effectiveness of RTI practices to complex 'real school' environments (p. 1). In summary, in order to draw reliable and valid conclusions regarding a student's responsiveness to an intervention program, school district and school leaders need to ensure fidelity in delivery of intervention, the integrity of the problem solving process, and the application of valid and reliable decision rules to determine response or lack thereof (Fuchs et al, 2003; Fuchs et al, 2004; Kratochwill et al. 2007; Reynolds & Shaywitz, 2009a).

Research also indicated the successful implementation of any program of this magnitude depends on leaders' utilization of implementation science (Fixsen, Blase, Naoom, & Wallace, 2009). Lessons learned from statewide implementation of RTI/MTSS frameworks in Ohio, Illinois, and Iowa also revealed the importance of utilizing a coordinated plan for sustainable systemic change (Graden, Stollar, & Poth, 2007; Ikeda et al., 2007; Peterson, Prasse, Shinn, & Swerdlik, 2007). This finding was echoed throughout the literature on RTI/MTSS implementation. An implementation plan should include consideration of site-readiness, appropriate resource allocation, leadership development, and professional development for all

staff (Burns et. al. 2013; Donnell & Gettinger, 2015; Dulaney, Hallam & Wall, 2013; Fixsen et al., 2009; Kratochwill et al., 2007; Palenchar & Boyer, 2008; Shepherd & Salembrier, 2011).

Furthermore, districts would be advised to develop an RTI/MTSS conceptual framework (Dulaney et al., 2013; The Multi-Tiered System of Early Intervention and Support Work Group, 2015) and ensure that policies and procedures contain the specificity necessary to foster implementation integrity in the delivery of intervention and decision-making processes (Desimone, 2002). The literature also suggested that high levels of principal and teacher confidence and competence and a collaborative school culture will result in better buy-in and improve implementation integrity (Bean & Lillenstein, 2012; Burns et al., 2013; Donnell & Gettinger, 2015; Meyer & Behar-Horenstein, 2015; Palenchar & Boyer, 2008; Shepherd & Salembier, 2011).

Theoretical Framework

A theoretical framework provides "a lens through which a research problem is viewed" (Roberts, 2010, p. 129). The implementation science research of Fixsen et al. (2009) provided an appropriate theoretical framework for the study. This framework is rooted in the understanding of implementation as an ongoing process through which a new idea or concept is integrated into an already existing system (May, 2013, p. 2). Fixsen et al. (2009) suggested the dismal results of evidence-based practices in the field is because, "science to service had been seen as a *passive process* that involved diffusion and dissemination of information that somehow makes its way into the hands of enlightened champions, leaders, and practitioners who then put the innovation into practice" (p. 532).

Fixsen et al. (2009) contrasted this passive process, in which evidence based programs are simply provided to practitioners with an assumption that they will take root, with a more active process in which the science of implementation is leveraged to ensure programs are implemented with the level of fidelity necessary to maximize success. Based on a 2004 seminal study that included a review of implementation literature across numerous professional fields, and interviews with research groups, national leaders, policy makers, and provider agencies successfully implementing large-scale projects, the authors developed "two major theoretical frameworks for moving science to service more effectively and efficiently" (p. 533). The first of these frameworks delineates the stages of implementation and the second addresses the strategies that driver implementation. Bertram, Blase, and Fixsen (2015) presented the most recent iteration of these two frameworks (p. 477).

Implementation stages. This first framework described the four stages an organization proceeds through when implementing a new program. When leaders neglect or overlook the activities or tasks that need to be completed in any of these stages the organization will not move effectively to the next stage (Bertram et al., 2015).

Exploration. In the exploration stage, an organization should consider a match between population needs and a program. During this stage a decision should be made "regarding the appropriateness and benefits of the new or refined program" and an implementation plan with tasks, timelines, and delineation of responsibilities to "facilitate effective and efficient installation and implementation) should be developed (p. 480).

Installation. The installation stage requires leaders to carefully organize and plan for the process of implementation. Staff competency drivers, which include consideration for hiring,

training and coaching, should to be utilized. According to Bertram et al. (2015) in this stage, “the competency or organizational drivers necessary for high fidelity implementation and improved population outcomes must be established or repurposed” (p. 480).

Initial implementation. During initial implementation “the excitement and anticipation of new ways of providing services meets human inertia, fear of change, and investment in the status quo’ (Bertram et al., 2015, p. 481). This stage requires “steady leadership that normalizes challenges, that provides increased coaching and support for practitioners, and that employs rapid, data-informed problem solving” (p. 481).

Full implementation. In this stage all practitioners are implementing a program with fidelity. However, it is important to understand that: “Program services are inefficient, poorly executed, ineffective, or are not sustained when the host organization attempts to move to full implementation without developing or repurposing and working through the framework of implementation drivers” (Bertram et al., 2015, p. 481).

Implementation drivers. The second framework developed by Fixsen et al. (2009) articulated the implementation drivers, or mechanisms, used by leaders to successfully advance implementation of a new program in an organization. According to Bertram et al. (2015), implementation drivers establish organizational capacity and function as “the infrastructure elements required for effective implementation”. These three drivers–competency, organizational, and leadership–serve different functions in each stage of implementation and vary in importance depending upon the stage of implementation. Implementation drivers are described in greater detail below.

Competency drivers. Competency drivers are the mechanisms leaders employs to build staff capacity to implement a program and "promote competence and confidence of those engaged in implementing the program so that high fidelity and improved population outcomes are more likely to occur" (Bertram et al., 2015, p. 482). This driver includes hiring staff with the right knowledge and aptitude, training, coaching, and assessing performance. Developing competency is important during the installation stage but should be an ongoing effort through initial and full implementation.

Organizational drivers. Organizational drivers are important at all stages of implementation. Facilitative administration requires leaders to consider the readiness and capacity of a system to implement a program during the exploration stage and then plan backwards for success. This process should include consideration of climate and culture along with assessing human and technical resources. The goal is to "adjust work conditions to accommodate new functions needed to implement the program model effectively, efficiently, and with fidelity" (p. 485). Systems level interventions should be used to address constraining and supporting factors during the often-turbulent installation and initial implementation. Effective leaders also use formal and informal data systems to gather information with which to assess implementation of the program and measure population outcomes.

Leadership drivers. Leaders responsible for implementation of a new program need to apply both technical and adaptive leadership skills. Technical skills are appropriate in situations with general agreement on the solution to a challenge and when a problem can be solved by applying "more traditional management approaches that focus on a single point of accountability with clearly understood and well-accepted methods and processes that produce fairly reliable

outcomes" (Bertram et al., p. 484). Adaptive leadership skills are more critical for addressing complex situations that require coaching, group facilitation, collaborative problem-solving, and consensus building. While both skills are essential for successful implementation and sustainability, "a common error is applying technical leadership under conditions that call for adaptive leadership strategies" (Bertram et al., 2015, p. 484).

Statement of the Problem

The literature review contained examples of how RTI/MTSS has been implemented throughout the United States and related many lessons regarding effective implementation of the framework. Small empirical studies, which confirmed the effectiveness of isolated components of RTI, particularly indicating the positive student outcomes when intensive intervention was implemented with integrity, also exist. However, information on the specific policies, procedures, and implementation strategies enacted by school districts and schools to make progress towards full implementation of an MTSS/RTI framework in the context of IDEIA 2004 and Minnesota special education and early intervening statutes was not readily available. The promise of using RTI as a valid and reliable indicator of a learning disability cannot be fully realized until schools reach high levels of implementation fidelity in their program delivery, problem-solving processes, and use of data for decision-making. If RTI is to be used as a valid and reliable identifier of a student's learning disability in Minnesota school districts, this research gap needs to be bridged.

Purpose of the Study

The purpose of the study was to examine how leaders in one Minnesota school district leveraged policies, procedures, and implementation strategies to create the conditions that

resulted in implementation of an MTSS and replacement of the IQ-achievement discrepancy with an RTI measure for identifying a learning disability in comprehensive special education evaluations. The study will address, in part, the paucity of literature related to MTSS/RTI implementation in Minnesota. By revealing leadership and implementation practices in one Minnesota school district, the study intended to provide information that may benefit other school leaders.

Significance of the study. The promise of using RTI as a valid and reliable indicator of a learning disability cannot be fully realized until school districts and schools reach high levels of implementation fidelity in their program delivery, can ensure the integrity of the problem-solving process, and use valid and reliable data for decision-making. Jimerson et al. (2007) claimed there is "a paucity of resources that synthesize essential knowledge regarding the conceptual and empirical underpinnings of RTI and actual implementation" (p. 7).

The Minnesota Department of Education has commissioned Wilder Research to survey school leaders regarding implementation of the MTSS and English Language Arts Standards annually since 2013. With nearly 50% of schools responding each year, the 2016 report determines a slow progress in MTSS implementation by Minnesota schools (p. 1). Only 20% of respondents in 2016 self-reported that their school was fully implementing an MTSS. The top five challenges to full implementation reported by schools in 2016 were: (a) staffing capacity, (b) difficulty in scheduling, (c) need for professional development, (d) funding, and (c) lack of support our buy-in from staff (Wilder Research, 2016, p. 12).

Minnesota Statute 125A.56 entitled *Alternative Instruction Required before Assessment Referral* provides guidance to school districts on the implementation of early intervening

services. In 2014 a Multi-tiered System of Early Intervention and Instructional Supports (MTSS) Work Group was convened to review current practice under this statute and make recommendations to the Minnesota Department of Education. Recommendations from this workgroup included:

1. School districts should establish an E-12 MTSS model and implementation plan aligned with the Read Well by Third Grade and World's Best Workforce goals and plan.
2. The Minnesota Department of Education should provide information to school districts on funding sources to support MTSS and replicate and share proven MTSS models.
3. School districts and schools need to establish accountability systems to ensure implementation fidelity.
4. Professional development plans should support MTSS implementation and leadership training.
5. Parents should be informed on how their child is served in an MTSS and provided with opportunity to be engaged (Work Group Report, p. 3)

Assumptions

An assumption of the study is that interviewees answered questions openly and honestly and in a manner that accurately reflected their professional opinions, knowledge, and experiences with implementing the RTI/MTSS framework. The study also assumed that teachers who answered the interview questions did so honestly and their responses accurately represent teachers in the school district.

Delimitations

Delimitations identify the boundaries set by a researcher in a study (Roberts, 2010). The study was delimited by the following: (a) it was conducted in one school district in Minnesota during November-December 2017, (b) the school district was a member of a particular education district which managed special education services for the school district, and (c) four of five schools in the school district agreed to participate.

Research Questions

The study employed a convergent or parallel, mixed-methods design. Both qualitative and quantitative methods were employed to examine how school district and school leaders in a sample of four schools in one school district in Minnesota created the conditions for their schools to make progress in implementation of an RTI/MTSS framework. The school district was part of a six-member education district that managed special education services in the district. The study was guided by the following research questions:

1. What policies, procedures, and implementation strategies were employed by school district and education district leaders to facilitate and support implementation of RTI/MTSS?
2. What type of professional development was provided to principals, teachers, and other select staff involved in implementation of RTI/MTSS?
3. What actions did school principals undertake to ensure effective implementation of RTI/MTSS (schedules, team meetings, staffing, resources) in each school?
4. What did teachers' report were their beliefs about RTI?

Definition of Terms

Competency Driver: The mechanisms or strategies used to ensure all staff members responsible for the delivery of program or intervention are trained and coached to implement with high levels of fidelity. This also involves hiring staff with the necessary skills and dispositions (Fixsen et al., 2009)

Education District: Minnesota Statute Section 123A.12 permits school districts to enter into a written agreement to establish a collaborative education district in order to increase cooperation and coordination among school district and thereby increase educational opportunities for learners.

Fidelity of Implementation: The process of evaluating how faithfully a program is actually implemented in comparison with how it was implemented during an efficacy and/or effectiveness study (Missett & Foster, 2015)

Implementation Science: Scientific study of how to bridge the gap between research and practice and ensure evidence-based programming is implemented effectively (Olswang & Prelock, 2015)

Intelligence Quotient (IQ): A score determined by a person's response on a standardized intelligence test relative to the average performance of others of the same age (Intelligence Quotient, n.d.)

Learning Disability: A disorder of one or more of the basic psychological processes involved in understanding or using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell or to do mathematical calculations (Kratochwill et al., 2007, p. 28)

Multi-Tiered System of Support: A conceptual framework of multiple tiers of support which promotes the academic and social well-being of all children by merging RTI with programs designed to support students' social-emotional development such as Positive Behavior Intervention Supports (PBIS) (Baker, Fien, & Baker, 2010).

Minnesota Comprehensive Assessments III (MCA III): Statewide tests administered annually to students in Minnesota. Students in grades three to eight and grade ten are tested in reading. Students in grades three to eight and grade eleven take are tested in mathematics and students in grades three, eight, and ten are tested in science. The results assist school districts by measuring student progress towards Minnesota's academic standards in these three areas (Minnesota Department of Education, 2018).

Organizational Driver: One of three components of a theoretical framework for implementation. The use of organizational drivers includes consideration of organizational readiness, planning backwards for implementation, and using formal and informal data inputs to monitor progress and make adjustments (Fixsen et al., 2009).

Problem-Solving Approach: The use of an in-depth problem-solving process through which a team develops a customized intervention by considering the discrepancy between a student and peers, exploring all environmental variables, and developing a hypothesis for the discrepancy (Jimerson et al., 2007)

Professional Development: Training which provides educators with the knowledge and skills to enable students to succeed in a well-rounded education. Professional development activities are most effective when they are intensive, collaborative, data-driven, and classroom-focused.

Professional Learning Communities: In a Professional Learning Community (PLC) a collaborative team of teachers meet regularly and work together to (a) determine the knowledge and skills their students need to learn, (b) determine the means used to assess this learning, and (c) decide how to address the needs of students who do not learn the required knowledge and skills (DuFour, DuFour, Eaker, & Many, 2006)

Progress Monitoring: The process of gathering interim data to ascertain whether or not a student is responding to an intervention.

Test Reliability: The stability reliability of a test refers to how consistently a student scores when a test is retaken (Popham, 2010).

Response to Intervention: The process of using data on a student's response or lack of response to scientifically-validated interventions to make decisions on identification of a learning disability and subsequent identification for special education (Jimerson et al., 2007).

Standard-Protocol Approach: The use of a standardized and validated treatment protocol or intervention with a group of children in need of support in the same academic domain (Fuchs et al., 2003)

Test Construct Validity: The extent to which a test can determine if a "hypothesized construct actually exists" and whether a test "accurately determines a test-taker's status with respect to the hypothetical construct" (Popham, 2011, p. 35)

Universal Screening (also Global Screening): Screening of all students on academic or behavior indicators to identify those who fall below proficiency benchmarks. These screeners are typically conducted three times a year and provide information on progress for individuals and groups (Kovaleski et al. 2013, p. 46).

Summary

The goal of an MTSS is to improve outcomes for all students and provide data on a student's level of responsiveness to scientifically based intervention to ascertain whether or not a student has a learning disability. However, the process of using RTI as a valid and reliable indicator of a learning disability cannot be fully realized until districts and schools reach high levels of implementation fidelity with program delivery, problem-solving processes, and use of data for decision-making. According to Jimerson et al. (2007), "there is a paucity of resources that synthesize essential knowledge regarding the conceptual and empirical underpinnings of RTI and actual implementation" (p. 7). May (2013) states, "implementation' never refers to a single 'thing" (p. 2). He argues:

> Whenever some new way of thinking, acting, or organizing is introduced into a social system of any kind, it is formed as a complex bundle–or better, an 'ensemble'–of material and cognitive practices. Even what appear as a very simple implementation process involved many moving parts (p. 2)

Implementing an RTI/MTSS framework in which RTI can be used as a reliable and valid indicator of a learning disability is a complex implementation. School district and school leaders are more likely to be successful in implementation if proven mechanisms or 'drivers' are utilized (Fixsen et al., 2009). The study examined the use of implementation drivers or strategies in four schools in one school district in Minnesota.

Organization of the study. This study is organized into five chapters. This chapter has provided an overview of the study, including a statement of the problem, purpose of the study, the theoretical framework, research questions, significance of the study, definition of important terms, and assumptions and delimitations of the study. Chapter II presents a review of the related literature. This includes the historical origins of a learning disability and the federal legislation

guiding identification of students with this disability. In addition, the literature review also examines the promises and challenges of implementing RTI as part of an MTSS. Chapter III details the mixed methods case study methodology used to answer the research questions. Chapter IV presents the finding for each of the research questions. Chapter V provides a summary, analysis and conclusions, recommendations for practice, and suggestions for further research.

Chapter II: Review of Related Literature

Introduction

This literature review will span 50 years of legislative and educational-reform efforts regarding the identification and education of students with a learning disability. The review is organized into three sections. Section one will provide a historical overview of the construct of a learning disability and explain how the Education of all Handicapped Children Act (EHA) of 1974 initially guided schools in the identification of students with this disability. This section will also cover concerns of educators and researchers regarding the reliability, validity, and utility of the IQ-achievement discrepancy measure required under EHA 1974 for identifying students with this a specific learning disability.

The second section of this review begins with the enactment of Individuals with Disabilities Education Improvement Act (IDEIA) in 2004. IDEIA allowed the use of a process called Response to Intervention (RTI) for identification of students with a learning disability. This section covers the promises and critiques of this method and introduces the Multi-Tiered System of Support (MTSS) as a framework used by schools and districts to operationalize RTI. Finally, the third section examines current national and regional progress in implementation of IDEIA 2004 and the RTI/MTSS framework. This section also explores persistent barriers to successful implementation and the strategies school leaders have successfully used to overcome these barriers.

Historical Overview

Origins of a learning disability: AHA 1974. Since the end of the 19th century, educators and physicians have documented children of at least average intelligence and age-appropriate social adjustment who experience unexpected difficulty in learning (Fuchs et al., 2003). The difficulty in learning could not be explained by any observable factors or physical limitations such as impaired sight or hearing. Over time, this phenomenon became known as a learning disability (Fuchs et al., 2003).

The earliest empirical evidence for the existence of a disability that appeared to indicate problems with the process of learning emerged from a 1975 epidemiological study by Rutter and Yule. These researchers gathered the IQ and reading achievement of all children between ages 9 and 14 on the Isle of Wight (Fuchs et al., 2003). When IQ scores of the children were regressed onto reading achievement scores the researchers reported an anomaly at the lower end of the distribution. Rutter and Yule claimed this anomaly indicated 'extreme degrees' of reading underachievement occur at a greater rate than should be expected" (Fuchs et al., 2003, p. 157). This reading underachievement could not be attributed to low IQ and "appeared to confirm 'unexpected' and 'specific' learning failure as a valid identifier, or marker, of students with LD" (Fuchs et al., 2003, p. 158).

These findings influenced the earliest federal legislation safeguarding the rights of students with disabilities. In 1975, the United States Congress enacted the Education for All Handicapped Children Act (EHA). Kovaleski et al., (2013) describe the enactment of EHA 1974 as a pivotal event because for the first time, in the history of American public education, the right to a 'free and appropriate' public education for children with disabilities was guaranteed (p. 1).

This law formalized the definition of a learning disability as “a disorder of one or more of the basic psychological processes involved in understanding or using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell or to do mathematical calculations” (Kratochwill et al., 2007, p. 28). As outlined by Kovaleski et al. (2013), the original procedures for identification of a Specific Learning Disability (SLD) under EHA 1976 were:

> A team may determine that a child has a specific learning disability if: (1) The child does not achieve commensurate with his or her age and ability levels in one or more of the following areas listed in paragraph (a)(2) of this section, when provided with learning experiences appropriate for the child’s age and ability level and (2) The team finds the child has a severe discrepancy between achievement and ability in one or more of the following areas: (i) Oral Expression; (ii) Listening Comprehension; (iii) Written Expression; (iv) Basic reading skills; (v) Reading comprehension; (vi) Mathematics calculation; (vii) Mathematics reasoning. (p. 2)

These procedures described an SLD as an ‘unexpected’ difficulty in learning relative to ‘ability’, but did not provide guidance on how this should be measured (Kovaleski et al. 2013). In the absence of guidelines, school practitioners began to use the following method for measuring the discrepancy: First, IQ was used as a measure of intellectual functioning, or “ability.” Second, performance on norm-referenced academic tests was used to represent “achievement.” A learning disability was indicated by a discrepancy between the two in addition to achievement not commensurate with age (Maki et al., 2015). As a result of using this method, a student with a lower IQ would not be identified as learning disabled because this child’s low academic performance would be expected based on ability (Kovaleski et al. 2013, p. 2). However, as this process was operationalized specific cut-point varied across states. According to Fuchs et al. (2003):

> … definitions of discrepancies varied in terms of how it was computed (e.g., standard IQ score minus standard achievement score vs. the regression of IQ on achievements), its size (1.0 *SD* vs. 2.0 *SDs*) and which specific IQ and achievement tests were used. (p. 158)

Concerns with the IQ-achievement discrepancy model. Within a short time, researchers began to question the validity and reliability of this calculation to either correctly identify a learning disability or provide information to guide educational practices for meeting the needs of students with a this disability (Fuchs et al., 2003; Kovaleski et al. 2013; Scanlon, 2013; Torgeson, 1986). According to Popham (2010), construct validity refers to the extent a test can determine if a "hypothesized construct actually exists" and whether the test "accurately determines a test-taker's status with respect to the hypothetical construct" (p. 35). In a 2005 discussion of the validity of using IQ and achievement to identify the construct of a learning disability, Francis et al. (2005) challenged the validity of the discrepancy measure given the absence of "criterion related research" to establish cut-points (p. 105). According to these authors, a valid criterion-referenced cut-point at which the existence of a learning disability can be confirmed has not yet been established. As a result, any cut-point used is "inherently arbitrary" (p. 105) and does not "adequately capture group of low achievers in whom underachievement is unexpected" (p. 103).

Further evidence for lack of validity and confirming the arbitrary nature of any cut-point used is found in studies comparing IQ-achievement discrepant students with students who do not have a discrepancy. These studies demonstrated that students with a discrepancy do not differ substantially on cognitive characteristics or levels of responsiveness to intervention from other underachieving and struggling learners (Fuchs et al. 2003; Kovaleski et al. 2013; Stuebing, Barth, Molfese, Weise, & Fletcher, 2009).

Ruling out an intellectual disability, formerly known as mental retardation, in the identification of a learning disability has also been considered important in confirming the 'unexpected' nature of a learning disability. However, the National Research Panel on Selection and Placement of Students in Programs for the Mentally Retarded (Heller, Holtzman, & Messick, 1982) found "little empirical justification for categorical labeling that discriminates mildly mentally retarded children from other children with academic difficulties, such as LD children or children receiving compensatory education" (p. 87). This report concluded: "The weight of the evidence clearly points to a group of instructional practices that seem to benefit all of these types of children" (p. 87).

The reliability of a measure refers to the stability of a score when a test is administered at different times (Popham, 2010, p. 43). A longitudinal study by Francis et al. (2005) provided evidence for the lack of reliability of the discrepancy method. These researchers used both a simulated data set and actual student data from the Connecticut Longitudinal Study (CLS) "to evaluate the stability of group designations using IQ-achievement and low achievement definitions of LD" (p. 100). Two tests were used in this study: the Full Scale IQ score from the WISC-R and the reading composite score from the Woodcock-Johnson. Data were initially gathered when students were in third grade and four groups were formed, typically achieving, low-achieving only, IQ discrepant only, and IQ discrepant and low-achieving. When students were tested two years later in fifth grade, 78% of students were in a group different from the one to which they had been originally assigned (p. 102). The simulated data set mirrored the actual data, leading the researchers to conclude, "assignments based on cut-points for IQ-discrepancy and low achievement are not reliable and generally produce unstable groups" (p. 103).

According to Francis et al. (2005), this outcome illustrates the "problems inherent in *any* psychometric approach to the identification of students as having LD that relies exclusively on observed test scores that represent the endpoints in a complex system of personal, cognitive, instructional, social and environmental inputs" (p. 99).

In addition to evidence related to lack of validity and reliability of this measure for identification of a learning disability, the use of the discrepancy method resulted in a number of practical challenges for practitioners and problematic outcomes for students. The first of these is the number of years a student can struggle academically before the discrepancy between his or her IQ and academic performance is significant enough to qualify for special education services. This has resulted in the discrepancy model being dubbed the "wait to fail" approach (Buttner & Hasselhorn, 2011; Fuchs et al. 2003; Fuchs et al., 2004; Francis et al., 2005; Gresham, 2007; Stuebing et al., 2009; Torgesen, 1986). This delay in providing support to struggling learners is concerning to researchers and practitioners alike given the considerable amount of research indicating the importance of earlier systematic and intensive intervention for improving outcomes for struggling readers (NJCLD, 2005; Schatschneider & Torgesen 2004; Vellutino, Scanlon, Small & Fanuele, 2006).

Furthermore, some researchers claimed the discrepancy measure excluded students with the unexpected difficulty in learning that was the initial hallmark of a learning disability (Reynolds & Shaywitz, 2009b). According to Buttner and Hasselhorn (2011), international disability classifications systems consistently refer to the concept of the "unexpectedness of poor performance in an academic domain as a crucial component of the concept of LDs" (p. 76). Schatschneider and Torgesen (2004) described how dyslexia, the most common learning

disability, is typically an unexpected difficulty in learning to read relative to a child's overall cognitive ability (p. 759). Some researchers feared the use of an IQ-achievement discrepancy measure could result in the exclusion of higher-achieving students, since their academic performance is not sufficiently low (Buttner & Hasselhorn, 2011). As a consequence, high-achieving learning-disabled students may not have been provided with the specialized instructional support and services available in special education to help them reach their full potential (Buttner & Hasselhorn, 2011; Francis et. al., 2005; Fuchs et al., 2004).

The third concern noted by many was an overrepresentation of male and minority students in special education programs (Kovaleski et al., 2013). The National Research Panel on Selection and Placement of Students in Programs for the Mentally Retarded (1982) was convened by the Office of Civil Rights (OCR) to examine this concern. In the panel report, the authors suggested disproportionate representation in and of itself may not be problematic unless male and minority children are more likely to have received poor quality instruction leading to an academic profile resulting in them being "overrepresented in the pool of 'potential' special education children" (Heller et al., 1982, p. 15). The reported also suggested placements in special education may have been the result of biased or invalid assessments that "could cause inferior performance on IQ tests by minorities" (p. 16).

Finally, researchers pointed to the significant increase in the number of students identified as SLD between 1977 and 2001 as further evidence of problems associated with this method of identification (Fuchs et al. 2003; Kovaleski et al. 2013; Maki et al, 2015). Specific Learning Disability (SLD) is the largest of 13 types of disabilities for which students can be served in special education. Table 1 shows the increase in numbers of students identified in this

category between 1977 and 2001. According to Fuchs et al. (2003) the use of the IQ-achievement discrepancy was "viewed as the culprit" for this increase (p. 158).

Table 1

Numbers and Percentages of Students Identified with an SLD

	SLD as a percent of all student served in special education	SLD as a percent of all students enrolled in public schools	Number of public school students identified as SLD
1977	21.5	1.8	796,000
2001	45.4	6.1	2.86 million
2013	35.4	4.6	2.28 million

U.S. Department of Education, The National Center for Educational Statistics.

According to Kovaleski et al. (2013), between 1975 and 1997 schools often did not have systems in place to rule out other factors such as inadequate instruction as a cause of academic underperformance. In some instances, classroom teachers did not have the training to accelerate the reading performance of struggling learners. This resulted in referrals to special education in the hope students would then be provided with the support they needed in that setting (p. 3). In response to these concerns and the "skyrocketing" numbers, the 1997 reauthorization of IDEA added a provision to ensure inadequate instruction in reading or mathematics was ruled out prior to identification of a learning disability (Kovaleski et al., 2013, p. 5).

Subsequent to this, the numbers of students identified as SLD has gradually declined from the peak in 2001. However, given the lack of a stable and consistent scientific understanding and definition of the construct of a LD, and a reliable and valid method with which to identify this disability, experts debate whether these numbers, at any given point in time, accurately represent the proportion of the general population with a learning disability (Fuchs et al., 2004; Vellutino et al., 2006).

In summary, it is clear that the accurate identification of students with a learning disability has been a source of robust debate among scholars in the field for at least 60 years. Torgesen (1986) provided a summary of this debate and the general consensus that understanding of a learning disability will continue to evolve. Advances in cognitive neuroscience will continue to deepen scientific and practitioner knowledge about how to identify and teach students with a disability in learning. It is important, therefore, that federal and state legislation guiding educators in the process of identifying and serving students remain responsive to developments in the scientific fields (Norton, Beach, & De Gabrieli, 2015; Scanlon, 2013; Torgesen, 1986).

Response to Intervention

Origins and description of the framework. In 2001, the Office of Special Education convened a National LD Summit, attended by LD researchers and policymakers, in Washington, D.C. (Fuchs et al., 2003). At this summit, "a majority of the researchers rejected IQ-achievement discrepancy as a valid LD marker, a stance subsequently supported, more or less, by the National Joint Commission on Learning Disabilities" (Fuchs et al., 2003, p. 159). A white paper authored by Gresham and presented at this summit argued for a different method of identifying a learning disability (Gresham, 2007). This paper recommended that "a student's inadequate response to an empirically validated intervention implemented with integrity can and should be used as evidence of the presence of LD and should be used to classify students as such" (Gresham, 2007, p. 14).

Following this, the President's Commission on Excellence in Special Education was impaneled in 2001 to advise congress on the reauthorization of IDEA. This commission heard

extensive testimony on the “state of special education” from researchers and practitioners (Kovaleski et al., 2013, p. 8). One of the recommendations in the commission’s final report was to change the method of identifying an SLD (Gresham, 2007; Kovaleski et al., 2013). According to Gresham (2007) the commission “emphasized RTI as a viable alternative to IQ-achievement discrepancy in the identification of LD” (p. 14).

In 2004 the Individuals with Disabilities Education Improvement Act (IDEIA) was signed into law. In response to the concerns and recommendations regarding the identification of SLD, the 2004 legislation stated: “a local education agency *shall not be required* to take into consideration whether a child has a severe discrepancy between achievement and intellectual ability” (Jimerson et al., 2007, p. 3). Instead, IDEIA 2004 “permits the use of data **(*response*)** obtained when scientifically based intervention is implemented with a student ***(to intervention*)** to make eligibility decisions under LD” (p. 3).

Researchers believed this change would reinforce the importance of early intervention and provide a more valid and reliable method of identification of a learning disability (Fuchs, et al., 2010, p. 302). However, some experts in the field quickly began to raise concerns about the reliability and validity of simply considering a student's low academic achievement and level of responsiveness to an intervention to determine the existence of a learning disability. Some believed that in a rush to change, an ineffective model had simply been replaced with one that was very much untested (Reynolds & Shaywitz, 2009a). While the scientific community continued to debate, state departments of education began to provide guidelines for schools regarding implementation of RTI and schools slowly began to integrate some of the basic tenets of this framework (Zirkel & Thomas, 2010).

The concept of considering response to intervention in treatment is not new. This framework is rooted in prevention science and public health models that differentiate primary, secondary, and tertiary levels of intervention (Gresham, 2007). The primary and preventative level is less intense and less costly; more expensive and intensive treatment is provided when a patient does not respond to primary levels of treatment (Fuchs, Fuchs, & Vaughn, 2008; Nelson et. al, 2015; Kratochwill et al., 2007).

Gresham (2007) described how physicians conduct regular screenings of factors, such as weight, height, and blood pressure that they use as indicators of a patient's overall health. A person's result on these measures is compared to "scientifically well-established benchmarks for typical and atypical functioning" (p. 11). If a patient's results indicate elevated or concerning levels, a physician will most likely begin by making recommendations for lifestyle changes such as improving diet and exercise and will follow up within an appropriate time frame to determine if concerning indicators are reduced, essentially to determine if the patient is responding to the intervention. A lack of response to this first level of intervention triggers more in-depth testing, more intensive recommendations for treatment or intervention, and even closer monitoring of response. As a patient moves through subsequent levels of intervention, the data gathered continues to inform treatment (Gresham, 2007, p. 11). Gresham proposed RTI should be used in a "parallel manner in schools to make important educational decisions" (p. 11).

Given these comparisons to public health and recommendations Gresham (2007) it is clear RTI does not simply serve simply as a mechanism to determine if a student is learning disabled (Fuchs et al, 2010). According to Fletcher and Vaughn (2009):

> The primary goal of RTI is the prevention and remediation of academic and behavioral difficulties through effective classroom instruction and increasingly intense intervention.

> A secondary goal of RTI is the provision of useful data that contributes to referral and decision making about students with LD. (p. 35)

In addition to the change in SLD identification procedures, IDEIA 2004 also allowed for the use of 15 percent of special education funding for students "who have not been identified as needing special education or related services but who need additional academic and behavioral support to succeed in a general education environment" (NJCLD, 2005, p. 3). This acknowledged the concern of researchers and practitioners regarding the importance of early intervention and prevention and provided a funding avenue for states and schools to provide early intervening services.

Fletcher and Vaughn (2009) summarized the expert consensus regarding the three components necessary to indicate the existence of a learning disability in the RTI model. These included (a) low academic achievement, (b) lack of response to intervention, and (c) exclusion of another disability that may be the cause of learning problems (p. 35). It is generally accepted that RTI models in schools should include the following critical components:

- all students are screened
- scientific research-based intervention is provided in general education for those students who do not meet pre-established benchmarks
- progress of students in intervention is monitored
- data is used to provide increasingly intense intervention for non-responders
- "children who do not respond adequately may be referred for a comprehensive evaluation for eligibility for special education services" (p. 30). (Fletcher & Vaughn, 2009, NJCLD, 2005)

Multi-Tiered System of Support (MTSS). In recent years, school districts and schools have operationalized the use of RTI as part a Multi-Tiered System of Support (MTSS) (NJCLD, 2005). According to Baker et al. (2010): "The phrase *response to intervention* did not adequately describe the multifaceted, comprehensive nature of a prevention and intervention service

delivery model" (p. 2). The conceptual framework of an MTSS recognized and addressed the scope of this framework and the complex and interrelating factors involved in ensuring the academic and social-emotional success of all children (Eagle et al., 2015). According to Eagle et al. (2015) an MTSS merges academic RTI efforts with programs designed to support students' social-emotional development such as Positive Behavioral Interventions and Support (PBIS). Additionally, an MTSS framework recognized ownership and responsibility for the RTI process does not reside with special education educators alone. In contrast, an MTSS involved all educators in the systematic use of data and scientifically-based instruction to improve outcomes for all students (Eagle et al., 2015; Fuchs et al. 2010; Nelson et al., 2015).

RTI is operationalized in an MTSS through the use of progress monitoring data to move students between tiers (Kratochwill et al., 2007, p. 619). Student response, or lack thereof, to a scientifically validated intervention obtained as part of the process could be used as part of a comprehensive evaluation for a learning disability. Fuchs et al. (2012) described an MTSS as "a fundamental rethinking and reshaping of general education into a multilevel system oriented toward early intervention and prevention" (p. 264).

While there is general broad conceptual agreement among researchers and practitioners with this model, the specifics of RTI/MTSS are implemented in different ways (Fuchs et al., 2012). This is partially due to lack of specificity in IDEIA 2004 (Fuchs et al., 2012, p, 264). Variations between schools occur mostly in the number of tiers used, what is considered 'responsiveness' at any given tier, the role of special educators in this system, and whether special education services are included in Tier 3 or stand alone in a fourth more intensive tier.

The most typical model is a three-tier system. (Fuchs et al., 2012; Maki et al., 2015; Nelson et al., 2015; Kratochwill et al., 2007).

Tier 1. In an MTSS, the education of all children begins with research-validated instruction in the general education classroom (NJCLD, 2005). General education teachers provide whole group direct instruction and differentiated opportunities for practice and application based on student needs. Fuchs, Fuchs, and Vaughn (2014) used a comparison to the health care system to emphasize the importance of effective Tier 1 instruction in preventing the need for more intensive and costly intervention in subsequent tiers (p. 14). Baker et al. (2010) also discussed the importance of primary prevention in Tier 1 and recommended:

> If reading outcomes are to be improved substantially - and they must if *all* students are going to reach high levels of early reading proficiency (e.g., reading at grade level by third grade) - then additional large scale improvements in the effective implementation of Tier 1 instruction must occur.

In a large-scale, randomized control trial examining the impact of both classroom instruction and small-group supplemental tutoring in math, Fuchs et al. (2012) found that students "who participated in validated classroom instruction outperformed students who participated in conventional (non-validated) class instruction by 1.3 standard deviations" (p. 272).

Tier 2. Tier 2 programs most often involve small group instruction using empirically validated instructional practices (Fuchs et al., 2014, p. 13). In Tier 2, students are provided with additional targeted intervention designed to meet a clearly identified skill deficit. Intervention duration in Tier 2 ranges from 10 to 20 weeks and averages 30 minutes of additional instruction daily. While participating in intervention, student progress is monitored closely for the desired effect. Fuchs et al. (2012) concluded:

> … that validated small-group tutoring was statistically significant and practically more effective when combined with validated classroom instruction than when it occurred with conventional (non validated) classroom instruction. The research demonstrated the importance of providing at-risk students with both strong primary prevention and secondary prevention. (p. 272)

Tier 3. Students who do not respond to Tier 2 are typically referred to Tier 3. However, there is still significant uncertainty about what services at this level should entail (Fuchs et al., 2012; Zumeta, 2015). According to Fuchs et al. (2012), "many teachers and researchers do not know how to conceptualize it, let alone to conduct it" (p. 271). Theoretically, a multi-disciplinary team engages in a more intensive problem-solving approach to isolate and manipulate all possible environmental and instructional variables. This process should result in a more intensive and possibly individualized intervention designed to meet a student's unique needs. When students do not respond to this level of intervention, the team explores eligibility for special education (Fuchs et al., 2010). In some models, Tier 3 included special education, while some schools use a four-tier model in which special education is represented in the fourth tier (Maki et al., 2015, p. 459).

Standard protocol and problem solving approaches. In an RTI/MTSS framework, school teams have typically employed one of two basic approaches as they use student data to select, design, and judge the effectiveness of intervention and to determine when to move students between tiers. The first method is known as a "standard protocol" and the second is called a "problem solving" approach (Fuchs et al, 2003; Jimerson et al., 2007; Maki et al., 2015). According to Jimerson et al. (2007), "in the standard protocol approach, a standard set of empirically supported instructional approaches is implemented" (p. 4). Fuchs et al. (2003) referred to this as a "standard and validated treatment protocol" (p. 159). A standard protocol

instructional approach typically takes the form of a scientifically based small-group intervention implemented either in the general education classroom or in a pull-out setting. According to Fuchs et al., (2003) the advantages of using "the same empirically validated treatment for all children with similar problems in a given domain" (p. 166) include the potential for serving greater number of students efficiently and the ease of training practitioners and monitoring the fidelity of implementation. Early reading researchers generally advocate for this protocol.

The problem-solving approach, advocated by school psychologists, emerged from the "behavior consultation literature" (Fuchs et al., 2003). This more individualized approach "involves the systematic analysis of instructional variables designed to isolate target skills/sub-skill deficits and shape targeted intervention" (Jimerson et. al, 2007, p. 4). Through this in-depth process, the school team designs a highly customized and possibly individualized intervention. The problem-solving approach is more resource intensive than standard-protocol. In comparing the two approaches, Fuchs et al. (2003) concluded, "the standard-protocol approach seems more likely in principle to facilitate greater quality control; the problem solving model appears more sensitive to individual differences" (p. 167).

While there has been significant debate regarding the strengths and challenges of each approach, and they have often been considered dichotomous, the reality is that most RTI/MTSS frameworks now combine the two approaches (Jimerson et al., 2007; Maki et al., 2015). It is often more cost-effective for schools to implement a standard protocol approach for larger groups of students initially and, "only when children fail to succeed in these standardized approaches is it necessary to isolate and manipulate individual environmental variables through a problem-solving analysis approach" (Jimerson et al., 2007, p. 5).

Changing roles of school personnel. Effective implementation of RTI in an MTSS framework requires school personnel become skilled in collaborative problem-solving, data-based decision-making, and the delivery of evidence-based instruction and intervention with fidelity (Bean & Lillenstein, 2012; The Evidence-Based Intervention Workgroup, 2005). To support and develop this increased collaboration around complex problems, the implementation of an the RTI/MTSS framework has necessitated adjustments in roles and skill-sets for special education staff, school psychologists, and reading specialists who typically provide Tier 2 or Tier 3 intervention (Bean & Lillenstein, 2012; Eagle et al., 2015; Ikeda et al., 2007). According to Bean and Lillenstein (2012), effective implementation of an MTSS is reliant on personnel who may have worked in isolation in the past to function as a collaborative problem-solving team and to understand more about the expertise each member brings. For example, school psychologists need to have some understanding of reading intervention and reading specialists need to learn about psychometrics (p, 494).

As part of statewide implementation of problem-solving models in Illinois and Iowa in the early 1990s, the role of school psychologists as consultants on academic and behavior intervention and experts in the problem-solving process was recognized. This was a departure from the traditional narrow assignment of school psychologists to student testing as part of a comprehensive evaluation (Ikeda et al., 2007; Peterson et al., 2007). Ideka et al. (2007) described the changing role for school psychologists from testing students to consulting on academics and behavior. This change led to modifications in job descriptions and hiring practices (p. 263). Eagle et al. (2015) discussed the complementary role school psychologists and building principals can play in leading implementation of an MTSS. These authors suggested school

psychologists as equipped to serve as leaders in developing staff competency. Eagle et al. (2015) stated: “School psychologists play an integral role in promoting and supporting competency development with the core components of MTSS including data-based decision making, evidence based interventions, implementation fidelity, and systematic problem solving” (p. 164). This work aligned with School Psychologist professional preparation and standards which include the use of data-based decision making, designing, implementing, and evaluating effective intervention and consultation and collaboration (National Association of School Psychologists, 2010, p. 4).

Leko, Brownell, Sindelar, and Keily (2015) examined trends with possible impact on special education teacher preparation and emphasized the importance of ensuring special education teachers are prepared with the skills and content knowledge to work in an MTSS framework. In describing the broadened definition of the work of special educators and the “blurring” of lines between their work and general education, Fuchs et al. (2010) stated:

> At the building level, blurring means that special educators should abandon resource rooms and self-contained classrooms to co-teach with general educators; tutor small groups of at-risk children in classrooms, hallways, conference rooms and libraries; and become members of problem-solving teams to develop individualized programs for the most difficult-to-teach, chronically unresponsive children - activities that may constitute three or more tiers. (p. 306)

These findings from researchers and school systems implementing RTI/MTSS aligned with findings in a recent leadership study undertaken by Leithworth, Mascall, and Janz (2012). In attempting to discern the impact of collective leadership on student achievement, these researchers found “collective leadership has a stronger influence on student achievement than does individual leadership” (p. 23). This impact occurred indirectly through the effect of collective leadership on teacher motivation and workplace settings (p. 23). As summarized by

Bean and Lillenstein (2012), school principals created the conditions for successful implementation of an RTI/MTSS framework but they cannot do this alone–they needed to promote the leadership of others such as reading specialists and school psychologists (p. 500).

Critiques of RTI. Even prior to the enactment of the IDEIA 2004, some researchers were concerned with the proposed use of RTI for LD identification and began to research and write about some of the potential concerns and implementation challenges. Fuchs et al. (2003) summarized the failure of the IQ-Achievement Discrepancy model but also noted their concern regarding the lack of evidence for Response to Intervention:

> ... as we write, many practitioners are using unvalidated prereferral intervention processes. More troubling, and more to the point of this article, is that these largely untested procedures are the basis of a much more ambitious and complex form of RTI, which is currently being considered as a replacement for IQ-achievement discrepancy to identify students with LD.

Concerns with RTI existed primarily in three main areas. The first of these has to do with the psychometric challenge of reliably determining 'response' in response to intervention (Fuchs et al., 2004; Kratochwill et al., 2007; Reynolds & Shaywitz, 2009a). In order to compare the reliability of different methods of determining responsiveness to intervention, Fuchs et al (2004) compared data from two reading intervention studies (p. 220). They summarized their findings as follows:

> ... alternate methods of assessing produce different prevalence rates of reading disability and different subsets of unresponsive children. This is important because a major criticism of IQ-achievement discrepancy as a method of LD identification is the unreliability of the diagnosis. Practitioners relying on an assortment of assessment procedures in an RTI framework may produce similarly unreliable diagnoses (p. 225).

The authors did not rule out the eventual use of RTI for eligibility decisions but emphasized the need for additional research. They offered their conclusions as "reasonable hypotheses with

which to begin prospective, systematic, and longitudinal research on the utility of alternative assessments in an RTI framework" (p. 226).

However, five years later, in a 2009 commentary, Reynolds and Shaywitz referenced the Fuchs et al. (2004) study and argued that empirical evidence to provide direction to educators on how to best determine appropriate levels of response was still lacking. They stated "the issue of measurement and determination of what constitutes a 'response' to intervention must be resolved consistently for RTI to have a fair chance to succeed" (p. 133). Maki et al., (2015) shared the perspective that the use of RTI to determine eligibility for special education is not validated (p. 459). With this lack of evidence-based agreement regarding what constitutes adequate response, guidelines from state departments of education are not specific and vary by state (Maki et al., 2015 p. 459). According to Reynolds and Shaywitz (2009a), eligibility decisions are left up to "the vagaries, inconsistencies, and non-evidence-based beliefs of individual teachers, principals, and administrators" (p. 45). Fletcher and Vaughn (2009) also discussed how "the use of rigid 'cut points' for benchmarks and establishing students as high or low responders to instruction could yield the same types of problems with reliability and validity of identification in RTI models" as had existed with the discrepancy model (p. 34).

The second concern with the use of RTI to indicate an SLD had to do with the continued possible continued exclusion of higher achieving students with a reading disability in addition to a possible over-identification as SLD of non-responders who do not have a learning disability but may be economically disadvantaged or English Language Learners and whose lack of response could possibly be attributed to other factors such as emotional stress or lack of motivation not addressed in the intervention (NJCLD, 2005, P. 7), Reynolds and Shaywitz (2009a) argued that

because the starting place for consideration of a learning disability in an MTSS system is global screening of students for low academic performance, bright students who may have a reading disability could still be excluded. According to these authors, this process "fails to adhere to the basic concept of LD" as an unexpected difficulty in learning (p. 46). These researchers claimed that using RTI rather than an IQ-achievement discrepancy measure does not solve the problem for these students. Reynolds and Shaywitz (2009b) also commented on the lack of empirical evidence for "accuracy and equity of diagnosis, studies of gender and ethnic bias as a result of using RTI as a diagnostic method, and miscalculation rates of students as SLD when other disabilities are present" (p. 142). These researchers advocated for the use of RTI for primary prevention only, not LD identification.

The third concern with RTI was also the most significant implementation challenges faced by school leaders. This involved ensuring fidelity in the delivery of evidence-based interventions, also known as treatment validity (Burns et al., 2013; Nelson et al., 2015; Reynolds & Shaywitz, 2009b). In order to draw conclusions regarding a student's responsiveness to a program, educators needed to evaluate how faithfully a program was implemented in comparison with implementation during an efficacy study (Missett & Foster, 2015). Reynolds & Shaywitz (2009b) defined treatment validity as "the degree to which an intervention is implemented as planned" (p. 131). They stated:

> Unfortunately, treatment integrity has been largely ignored in the schools and it may be sobering to consider that treatment integrity is a necessary component to assessing effectiveness of the intervention, may or may not be regularly measured by professionals in the field of school psychology or special education and when it is measured, it is not measured by a disinterested external observers, but rather relies most often on teacher self-reports - the very people whose treatment methods are being evaluated. (p. 131)

Many small controlled studies have demonstrated the effectiveness of components of RTI, but these were often implemented with a level of fidelity challenging to replicate in schools (The Evidence-based intervention work group, 2005; Fletcher & Vaughn, 2009; Fuchs et al., 2003; Reynolds & Shaywitz, 2009b). Nelson et al. (2015) stated "lower levels of treatment validity make evidence-based practices less effective" (p. 15) and recommended the use of research-based implementation procedures such as self-monitoring fidelity checklists to maintain program fidelity (p. 17). Kratochwill et al. (2007) discussed the importance of well-designed, high-quality professional development for all school staff in ensuring implementation fidelity.

Implementation of an RTI/MTSS Framework

National overview. Following the passage of IDEIA 2004, a few states moved quickly to require the use of RTI for LD identification (Zirkel & Thomas, 2010). Most, however, allowed for district choice between the two methods and focused state efforts on providing capacity building and implementation support to schools. In order to ascertain the national status of implementation, Hoover, Baca, Wexler-Love, and Saenz (2008) surveyed state special education directors. This survey included questions on the purposes of RTI emphasized by a state, the decision-making models used, and the foci of statewide training. With a response rate of 86% of state directors or designees, 100% of respondents indicated they were emphasizing the use of RTI for instructional decision-making, and 89% of respondents indicated they were also emphasizing the use of RTI to determine eligibility for special education (p. 7). Hoover et al. (2008) concluded:

> While RTI as a replacement for the discrepancy model has its critics and is being heavily debated, it is being seriously considered by many states departments as the predominant method of choice for meeting the needs of students at-risk and those struggling with learning. (p. 2)

Zirkel and Thomas (2010) undertook a systematic review of laws, statutes, and other documents provided by states to guide school districts in the implementation of IDEIA 2004. This comprehensive review distinguished between components of RTI explicitly or implicitly required by state law and/or guidelines. At the time of reporting, 12 states required the use of RTI and five of these 12 prohibited the use of an IQ-achievement discrepancy measurement entirely. However, the authors concluded that the vast majority of states chose to permit both RTI and the IQ-achievement discrepancy, thereby "delegating the ultimate choice to the LEA" (p. 60). Specific to Minnesota, Zirkel and Thomas (2010) found that the RTI components of continuous progress monitoring and fidelity measures were explicitly required by law, high-quality, research-based instruction in general education was explicitly required by guidelines, and universal screening and multiple tiers of progressively more intensive instruction were implicitly required by law (p. 66).

Maki et al. (2015) reviewed and coded state documents to determine the current reality on how states were defining LD and determining eligibility. At that time, all 50 states utilized the IDEIA 2004 definition of a learning disability and required the use of exclusionary criteria for identification (p. 462). In addition, the authors found that 96% of states also described LD as a psychological processing disorder and language disorder. However, only Georgia, Idaho, Maine, and Minnesota required the measurement of a student's psychological processing as part of a comprehensive evaluation (p. 462). Most states–98%–also described LD as a neurological disorder (p. 460). Maki et al. (2015) found the number of states explicitly prohibiting the use of IQ-achievement discrepancy for identification increased to ten. However, the study found

significant differences between states regarding both the specificity and type of guidelines provided for the use of RTI.

A 2011 McRel study provided a qualitative analysis of implementation of RTI in the six Midwestern states of Illinois, Iowa, Michigan, Minnesota, Ohio and Wisconsin. Of these six states, only Iowa required the use of response to intervention and prohibited the use of IQ-achievement discrepancy to determine eligibility for special education. Ikeda et al., (2007) described the process used in Iowa to move from a "refer-test-place" to a "needs-based" RTI system in the early 1990s (p. 256). According to the authors, this initiative was undertaken as a system-wide reform effort to scale up effective special education practices (p. 256). By 2007, Iowa no longer used published IQ or achievement tests to make special education eligibility decisions (p. 266). Instead, a data-driven, problem-solving process is used to move students across increasingly intensive tier of services.

In contrast, Ohio implemented a three-tier problem-solving model as a comprehensive reform effort to improve student outcomes at all levels (Graden, Stollar, & Poth, 2007). The Ohio Integrated Systems Model (OISM) integrated behavior and academics in a data-driven system in which research-based instruction and intervention was provided in increasing levels of intensity. The use of RTI for special education eligibility was not a stated outcome of this initiative, although the RTI process "naturally occurred" (p. 289). According to the 2011 McRel, Illinois reported plan for the use of RTI to determine eligibility beginning in the 2010/11 school year (p. 12). The Illinois Flexible Service Delivery Model (FSDS) was also initiated in the early 1990s to better meet the needs of all students (Peterson et al., 2007). The basic premises of this model was "the underlying assumption that the academic and social/emotional difficulties

experienced by students in school are at least partially the result of the interactions between the child and the classroom or instructional environment, and that the causes of these difficulties do not solely lie 'within' the child" (p. 300). An ecological approach was used to determine if a dual discrepancy existed (p. 304). As a result, the severe discrepant cut-point may be lower in a school or district with overall lower achievement.

Dulaney et al. (2013) examined strengths and challenges of implementing an MTSS from the perspective of superintendents in Utah (p. 34). Utah does not provide an MTSS framework but does explicitly require by law all the previously mentioned core characteristics of RTI for SLD identification (Zirkel & Thomas, 2010). Superintendents were first administered an MTSS Readiness Survey with questions on collaborative processes, data-based decision making, and the use of evidence-based practices in their districts. Based on the results of the survey, a case study methodology was used to conduct follow-up interviews with nine superintendents (Dulaney et al., 2013, p. 36). Analysis of this qualitative study interview data yielded three major findings: (a) districts must develop an MTSS framework and promote a common language based on the framework; (b) a district-wide culture of collaboration must exist; and (c) capacity of individuals and learning communities must be built at every systems level so improvement is ongoing and sustainable (p. 37).

According to the McRel report, Minnesota provided general guidance to school districts but "does not promote a response to intervention initiative" (p. 42). Minnesota state officials reported plans to continue using the discrepancy model "until the fidelity of response to intervention is established" (p. 12). According to this report:

> The state's response to intervention community of practice is working to establish implementation standards and the criteria for determining when a school is ready to

> exercise its choice to use data from response to intervention to determine eligibility for special education. (p. 12)

The Minnesota state department of education worked with the Wilder Foundation to survey school districts every year since 2013 on MTSS and English Language Arts standards implementation. The results of this annual survey helped "focus statewide technical assistance and support" (Wilder Research, 2016, p. 7). The statewide implementation framework was based on the work on Fixsen et al. (2009). These authors claimed it could take "from two to four years to fully and successfully operationalize an evidence-based program, practice, or effective educational innovation" (p. 1). The leadership survey items represented the following levels of action needed in a typical progression of implementation:

1. Commitment: a decision to hold sustained attention and effort
2. Infrastructure supports: taking action on the commitment; this includes financial, material, and program supports
3. Data-based decision making to improve practice and strengthen infrastructure
4. Systemic improvement: continuous review and analysis of efficiency and effectiveness

Out of 1500 schools invited to participate, 749 responded in 2014, 623 in 2015, and 721 in 2016. According to this report, results in 2016 indicated that, "for the third year in a row, elementary, middle, and charter schools averaged partial implementation, while the high schools averaged installing infrastructure stage in all areas" (p. 8). From a statewide implementation perspective, the report concluded the annual growth of two percent of schools reaching full implementation is not sufficient:

> If a law were to be passed requiring implementation of MTSS by 2020 we would have to increase the growth rate to 20 percent or add 156 schools to full and sustaining implementation levels. The state does not currently have the infrastructure to leverage such growth. (p. 10)

Implementation science. Many studies indicated the importance of effective implementation to the success and sustainability of RTI/MTSS (Dulaney et al., 2013; Graden et al. 2007; Ikeda et al. 2007; Palenchar & Boyer, 2008; Peterson et al., 2007; Shepherd & Salembier, 2011; Wilder Research, 2016; Zumeta, 2015). Gresham (2007) utilized conceptual similarities between RTI/MTSS and public health prevention models to describe the framework and emphasize the importance of implementation fidelity. Olswang and Prelock (2015) explored the research-to-practice gap in implementation of promising medical treatment and discussed the challenges of building the organizational structures needed to bring research to practice. These authors discussed the problematic time lag in bringing effective practices from science to implementation and the potential for the emerging field of "implementation science" to help address this issue (p. 1819). According to Olswang and Prelock (2015) too much responsibility is placed on practitioners to read and apply scientific findings. They suggested lack of organizational structure and practitioner motivation as the biggest barriers to implementation of promising new methods. Practitioners were often not motivated because they were not fully aware of the possible benefits of a change (p. 1819). These findings are applicable to implementation of RTI/MTSS given that treatment fidelity is one of the greatest implementation challenges of this model (Burns et. al, 2013).

Reeves (2007) discussed the persistent research-to-implementation gap specific to education - even when there is significant evidence for a promising practice. He stated, "teachers and school leaders persist in using ineffective teaching strategies, toxic grading policies, and

counter-productive leadership tactics despite an avalanche of evidence that suggests better alternatives" (p. 85). Reeves also recommended the use of specific proven leadership and implementation strategies. These included establishing the moral imperative and generating short-term wins by providing immediate feedback on effective practices and frequently recognizing effectiveness (p. 88-85). According to Reeves, "too many change efforts fail because leaders underestimate the power of the prevailing culture in undermining change" (p. 86)

Stewart and Raskin (2012) surveyed school superintendents in Minnesota to determine their perceptions of barriers to school reform. Responses were collected from 212 of 350 (60 percent) of superintendents (p. 6). According to 81% of superintendents, their district "had ingrained patterns of behavior that were resistant to school reform" (p. 6). Recommendations from these researchers emphasized the need for district leaders to provide professional development designed to improve knowledge of reform implementation strategies and leadership skills (p. 12).

The challenges of effective implementation is echoed by many other researchers, some of whom draw on Bandura's social constructivist theories of personal and collective agency and personal efficacy to understand the complexity of human actions in the change process (Bandura, 2002). May (2013) described implementation as "a social process of collective actions" (p. 1) and emphasized that implementation is not a single event but an ongoing process through which a new idea or concept is integrated into an already existing system. Many studies included strong recommendations that school and district leaders carefully consider site readiness for effective RT/MTSS implementation (Graden et al. 2007; Ikeda et al. 2007; Peterson et al., 2007; Shepherd & Samembrier, 2011).

Weiner (2009) overviewed a theory of organizational readiness for change in implementation of complex reforms in healthcare systems. Weiner defined organizational readiness for change as "organizational members" change commitment and change efficacy to implement organizational change" (p. 2). Because successful implementation of any complex change is dependent on a group of people working effectively together, it is highly dependent on a sense of shared beliefs and collective efficacy (p. 2). Organizational change theory suggests that when organizational readiness is high, stakeholders "exert greater effort in support of change, and exhibit greater persistence in the face of obstacles or setbacks" (p. 5).

Leadership for successful implementation.

School district leadership. There is general agreement in the literature that implementing RTI and establishing an MTSS is a complex process which requires knowledgeable and skilled leadership both at the school and district level (Bean & Lillenstein, 2012; Burns et al., 2013; Donnell & Gettinger, 2015; Meyer & Behar-Horenstein, 2015; Palenchar & Boyer, 2008; Shepherd & Salembier, 2011). In documenting the implementation of statewide problem-solving models in Ohio, Iowa, and Illinois, researchers consistently emphasized the importance of district leadership in supporting school implementation (Graden et al. 2007; IKeda et al. 2007; Peterson et al., 2007). According to Graden et al., (2007), "district-level coordination and planning are essential for sustainable systemic change and broad and deep implementation of research-based practices" (p. 293).

Anderson and Seashore Louis (2012) described the emergence of research interest understanding the effect of school district leadership impact on student achievement (p. 184). These authors attributed this interest to the national focus on centralized expectations and

accountability beginning in the 1960s. Prior to that time, school districts primarily functioned as administrative and bureaucratic 'coupling' of schools with responsibility for governance and management and school district impact on teaching and learning was believed to be minimal (p. 184). The first strand of this research focused on school districts with outlier results, those with student performance outcomes significantly different from what demographic information would suggest (p. 184). Initial attention was on examining district policies, procedures, and strategies. However, Anderson and Seashore Louis (2012) suggested these documents tend to look similar and suggested, "differences in district success depends less on such strategies and policies than they do on the skill and continuity of their *enactment* - and on organizational learning that leads to local expertise and sustainability of effective practices" (p. 186). The authors also commented on the lack of "inquiry and discussion about whether and how district-level actors differentiate support based on individual school needs within their jurisdictions" given the importance of this strategy (p.186)

Johnson and Chrispeels (2010) conducted a qualitative study involving 10 central office leaders, five principals and 45 school leadership team members in one district. They stated: "after 30 years of focus on schools as the unit of change, policymakers now recognize that schools are embedded in systems and that the relationship between a district and its sites may be critical to improvement" (p. 729). School districts typically attempted to improve coherence and alignment by strengthening "centralized bureaucratic controls" and by enhancing 'professional and organizational learning" (p. 740). In this study, Johnson and Chrispeels proposed to address the literature gap and determine the correct balance between these two mechanisms. They suggested a deeper understanding of effective organizational "pathways, linkages, or

mechanisms" could help leaders effectively leverage both control and capacity building to achieve desired outcomes (p. 743). They explored five possible linkages between central office leaders and school leadership teams and principals: resources, structure, communication, relational, and ideological. Findings indicated all five linkages were important and serve different functions. In summary, the authors stated:

> We argue that relational and ideological linkages are essential for enhancing commitment and professional accountability, ensuring a coherent instructional focus, and promoting organizational learning in the process of change. In contrast, the structural linkage was the primary vehicle used by the district to exert administrative control, complete critical organizational tasks, and enforce desired change. The communication and resource linkages in some respects can be seen as boundary spanners between these two theories of organizational change. Communication and resources were critical to implementing the district directives and exercising control; at the same time they facilitated dialogue, learning, and increased professionalism by both central office and school staff. (p. 766)

Desimone (2002) explored the connection between effective implementation and eventual outcomes of a promising practice by examining the impact of Porter's Theory of Policy Attributes in various comprehensive school reform models. In this context it is important to understand the Merriam Webster definition of policy as "a definite course or method of action" or, "a high level overall plan embracing the general goals and acceptable procedures." The policy attributes in Porter's theory are specificity, consistency, authority, power, and stability. Desimone's analysis revealed the importance of specificity for obtaining fidelity of implementation. She stated: "teachers reported more frustration and anxiety over reform models that required a large amount of local development" (p. 441). In addition to the importance of specificity, the attribute of power was related to immediate effect, and authority, consistency and stability were important for sustaining change (p. 470).

Leithworth et al. (2012) explored Bandura's socio-psychological theory of self-efficacy and how this contributed to effective leadership. Self-efficacy is a belief about a person's own ability to accomplish a task or goal; collective-efficacy refers to belief regarding a group's collective ability to do the same (p. 108). Professional efficacy is developed in response to environmental working conditions and is closely related to confidence (p. 109). Those with high self-efficacy are more likely to persist through adversity. The process of persistence and working through challenges develops and improves problem-solving and coping skills. This in turn reinforces and enhances efficacy (p. 109).

The Leithworth et al. (2012) study explored the correlation between conditions found in high-performing districts and self- and collective-efficacy in principals. Survey responses from 96 administrators and 2,763 teachers in 135 schools were examined. Results revealed a strong relationship (.63) between district leadership and principals' collective efficacy (p. 112). District conditions, such as a focus on quality and achievement, use of data, targeted improvement, culture, teamwork and professional development, were also strongly correlated with principal collective efficacy (.70) (p. 112). Self-efficacy for principals related to district conditions was moderately correlated (.39). Follow-up interviews were conducted with 31 principals. Results of this portion of the study revealed the district condition attributed to highest sense of principal efficacy was "district-wide focus on student achievement and instruction" (p.124). The second condition was job-embedded professional development for teachers, and the third was investment in school and district level instructional leadership (p. 124).

School principal leadership. According to Wahlstrom (2012) the concept of principal leadership also began to shift in the 1970s (p. 69). This involved a movement from operating and

managing a school to the idea of instructional leadership. While managing a school is measured by smooth operational outcomes, instructional leadership is measured by student achievement (p. 69). In a 2012 study, Wahlstrom analyzed instructional leadership from both principal and teacher perspective in both high- and low-performing schools. Findings indicated, "a clear distinction between principals' efforts to create a vision of learning on the one hand, and what the principal does in order to be certain that high quality instruction actually occurs" (p. 75). Wahlstrom (2012) described these two complementary leadership behaviors as instructional ethos and instructional actions (p. 73). Instructional ethos is a leadership disposition that articulates the vision of high expectations and ensures the development of a professional and collaborative culture with shared participation in leadership and ongoing professional development and support for teachers (p. 76). Instructional actions refer to how this is accomplished (p. 77). Teachers in higher-performing schools rate principals higher on both of these factors than those in lower performing-schools (p. 79)

Bertram et al. (2015) also described the need for both technical and adaptive leadership skills. Technical skills are those used to respond to more traditional management challenges in which there is greater certainty about the problem and possible solutions (p. 484). Adaptive strategies are those needed to respond to unique or complex leadership challenges. In the situations where adaptive leadership skills are required there is often less agreement on solutions and it is important for leaders to understand when and how to convene and lead teams (p. 484).

Burns et al. (2013) also discussed the significant challenges faced by school leaders in the implementation of RTI. They stated, "previous research has found that implementation integrity could be a serious threat to the validity of RTI models" (p. 1). These authors discussed the

importance of developing teacher "buy-in," which can be enhanced by involving school personnel in implementation decisions, and ensuring all stakeholders understand and see the value of RTI to sustaining the implementation over time (p. 81).

Professional development and school culture. Effective professional development and a collaborative school culture are frequently cited as critical components of successful and sustainable RTI/MTSS implementation. Many studies indicated the importance of providing all school personnel the professional development necessary to both understand the broad vision and conceptual framework of an MTSS and implement academic interventions and the technical aspect of procedural fidelity (Burns et. al., 2013; Donnell & Gettinger, 2015; Dulaney et al., 2013; Palenchar & Boyer, 2008; Shepherd & Salembrier, 2011).

Kratochwill et al. (2007) described professional development in implementation of RTI as a "centerpiece of concern" due to the "number of conceptual, theoretical, and procedural challenges educators will face as the attempt to implement RTI" (p. 619). It is critical to embed strong professional development as part of a well-developed implementation plan that includes analysis of site-readiness and organizational capacity (p. 623). In considering lessons learned from implementation of problem-solving frameworks, Illinois Peterson et al. (2007) explicitly addressed the need for ongoing professional learning for all school staff to ensure implementation success. Training and coaching should be provided in implementation of specific programs and strategies and in the data-based decision making processes (Peterson et al., 2007). In discussion on implementation of the Ohio Integrated Systems Model, Graden et al. (2007) described the importance of district-level structure and support for professional development (p. 296). Ikeda et al. (2007) discussed the importance of professional development and establishing

a “belief system that would endure” in the Iowa model (p. 257). Leaders in Iowa recognized that while the specific of a particular program might change over time ensuring core foundational beliefs would sustain change (p. 257).

Donnell and Gettinger (2015) surveyed 209 teachers across 32 schools in Wisconsin to examine the links between belief-congruence, self-efficacy, years of experience, and professional development and how these contributed to their acceptance of RTI as a school reform effort Wisconsin. Findings indicated three of these variables--belief-congruence, self-efficacy, and professional development--were moderately correlated with perceptions of RTI. The authors concluded:

> After controlling for all other explanatory variables, teachers whose beliefs were aligned with RTI (high congruence scores) had positive attitudes toward the reform initiative (high acceptability ratings) ($p < .001$). This finding suggests that beyond focusing primarily on implementation requirements (i.e., “how to”), professional development efforts may need to address explicitly the theory and rationale for RTI (i.e., “why”). Although training related to the technical aspects of implementation without and emphasis on the culture of the reform, such training will not ensure that enactment is aligned with the intent of the reform. (p. 55)

Nunn, Jantz, and Butikofer (2009) examined the relationship between teacher efficacy and response to intervention outcomes. They cited the body of research consistently linking teacher efficacy to factors such as persistence, enthusiasm, and willingness to initiate and maintain educational innovations. (p. 215). These researchers gathered data from “429 teachers, administrators, and support professionals training in RTI implementation” in RTI pilot sites (p. 216). All had received five days of training and on-site support in RTI concepts and strategies, including emphasis on collaboration, problem-solving, developing interventions, and evaluating intervention effectiveness. The results indicated a significant relationship between

teacher efficacy variables and satisfaction with results, collaboration in teams, and data-based decision making (p. 216).

In planning professional development, Guskey (2014) recommended beginning with the end in mind and carefully considering the unique needs of a particular group of educators. He also described the importance of developing both the 'why' and the 'what' and concluded: "Participants must develop sufficient depth in their knowledge of a new practice so that they can adjust these practices to fit the nuances of their particular context while maintaining program fidelity' (p. 15).

According to The Evidence-Based Work Group (2005), generalization "refers to the process by which an intervention becomes more commonly used and is implemented with students other than the original target student or in settings other than the original intervention setting" (p. 485). In considering the importance of professional development specific to RTI/MTSS, Burns et al. (2013) described the concept of 'generalization' for ensuring behavior or process learned by school personnel in professional development continues to occur across time and settings. They concluded, "generalization is at least a prerequisite for sustainability" (p. 81). These researchers recommended using the "Strategies for Generalization" (p. 83) developed by Stokes and Baer to design professional development activities that will increase the likelihood of generalization of professional development learning and therefore improve sustainability (p. 82).

Some small case studies of pilot schools across the country have also provided additional insight into specific components necessary for successful implementation of the complex change process involved in developing an MTSS and using RTI. The state of West Virginia requires the

use of RTI for SLD identification (Zirkel & Thomas 2010). Palenchar and Boyer (2008) investigated lessons learned from eleven pilot schools in the early stages of this state's implementation of a statewide system of response to intervention. Findings from the most successful school implementations of RTI revealed these schools had strong, knowledgeable, and focused school leaders, and were committed to deepening teacher knowledge and enhancing professional practices in a positive school climate. Leadership commitment to improving the "fundamental structures intrinsic to the process" (p. 21), such as scheduling and financial barriers to the provision of supplemental intervention, was critical.

Shepherd and Salembier (2011) used a case study approach to examine the implementation of RTI in three small rural schools in Vermont. These three schools were part of a pilot project to encourage early adoption of the model beginning in the 2006-2007 school year (p. 4). Pilot schools were provided with two years of support from the state department of education. This support began with an on-site, three-credit course for all staff (p. 4). Researchers used a semi-structured interview protocol, conducted classroom visits, and observed support team meetings. In their conclusions, the authors emphasized "the importance of considering sustainability of the RTI approach from the outset" (p. 14). Additional findings from this study recommended paying attention to site readiness and professional development in order to ensure teachers are engaged and appropriately prepared. The authors also concluded that "principals play a critical role in building rationale for talking on the innovation and linking it to existing school improvement efforts" and ensuring that support structures, including ongoing professional development, are provided (p. 14).

Funding challenges. Fletcher and Vaughn (2009) discussed the additional challenges of coordinating service delivery in an MTSS where services are "funded by separate entitlement programs, especially Title I and IDEIA that tend to have specific eligibility criteria and historically have made it difficult to blend resources to support schoolwide intervention models" (p. 33). Zumeta (2015) also addressed the issue of state and federal polices related to funding services in an MTSS - particularly in relation to the challenge of providing Tier 3 intensive services (p. 86). In considering how to develop capacity for statewide models, Graden et al. (2007) discussed the importance of sustainable funding for an RTI/MTSS framework and how this will support implementation by improving local adoption and buy-in (p. 293).

In summary, three broad findings emerge from the research on leadership and implementation considerations for RTI or MTSS. The first of these is district-level personnel and policies impact student outcomes by setting direction and ensuring intentional professional and organizational learning. It is important for district leaders to develop an MTSS framework, ensure site-readiness, allocate resources, and provide enough specificity in guidance to ensure implementation fidelity (Desimone 2002; Dulaney et al., 2013). Districts need to leverage relational and ideological linkages to ensure coherence, focus, and accountability, and leverage structural linkages to ensure organizational tasks are completed and desired outcomes are achieved (Johnson & Crispeels, 2010).

The second finding was the importance of effective principal leadership. The literature confirmed that an initiative such as implementation of an RTI/MTSS framework requires strong and focused building principals who articulate the vision, develop personnel, and organize the necessary resources for instructional improvement. The third finding emerged from the literature

is the importance of effective professional development for all personnel. Professional development for all members of an educational community needs to address both technical and procedural skills and conceptual understanding and support the development of cultural and collaborative skills necessary for implementation of RTI/MTSS. To be effective, leaders at all levels of the systems also need to ensure the existence of a collaborative school culture in which both principals and teachers feel a strong sense of self- and collective-efficacy, believe in the promise of RTI, and are committed to working to overcome the challenges.

Summary

This literature review was divided into three sections. The first section provided a historical review of the concept of a learning disability and federal law guidance for schools in identifying affected students. Beginning with the AHA in 1974, schools began calculating a discrepancy between a student's IQ and academic achievement to confirm existence of the 'unexpected' difficulty in learning considered a hallmark of a learning disability. Researchers and educators alike had significant concerns with the reliability, validity, and general utility of this measure. In 2004 the reauthorization of IDEA directed states to no longer required school districts to use this discrepancy measurement but instead allowed for the use a calculation of a student's response to a scientifically based intervention as part of a comprehensive evaluation to determine if a student has a learning disability.

The second section of this review described the concept of RTI in an MTSS framework, and the status of national implementation. Findings indicated the pace of implementation across the country is mixed and the research-to-practice gap in operationalizing an RTI/MTSS framework is challenging and requires informed and thoughtful leaders knowledgeable about the

change process. Despite the promise of RTI and hope that it could address some of the concerns with the IQ-achievement model, researchers also have concerns with both the reliability and validity of RTI as an indicator of a learning disability and the challenges of bringing to scale, in large educational systems, some of the small studies that indicate its effectiveness.

The third section covered the leadership challenges of effective implementation. The use of RTI in an MTSS involves a fundamental reshaping of school systems. RTI will be most successful in strong collaborative school cultures in which teachers understand and believe in the vision and feel a strong sense of self- and collective-efficacy. School districts are responsible for focusing priorities with specific guidelines, establishing an MTSS framework, and providing resources for professional development. School district leaders also need to ensure effective principal leadership development and hold school leaders accountable for student results and teacher performance. School principals need to articulate the vision, build a collaborative culture, and ensure implementation fidelity. Professional development designed to help all school personnel understand the conceptual model of RTI/MTSS and address both the technical skills necessary for data-based decision making, implementation integrity and changing roles for teachers is the responsibility of both building and school district leaders.

Chapter III: Methodology

Introduction

The Individuals with Disabilities Education Improvement Act (IDEIA) 2004 permitted the use of the Response to Intervention (RTI) methodology to replace the calculation of discrepancy between a student's IQ and academic achievement in a comprehensive evaluation to identify students as learning disabled. Despite the fact that researchers and educators had advocated for this change, the literature revealed concerns in the field regarding how the RTI process is implemented in schools.

One of these concerns is the psychometric challenge of how to reliably determine 'response' in 'response to intervention'. The use of data to determine adequate response and decide whether to intensify or decrease intervention or move forward with a comprehensive special education evaluation remains one of the most challenging implementation components (Fuchs et al., 2004; Kratochwill et al., 2007; Reynolds & Shaywitz, 2009a). According to Fuchs et al. (2004), if this is not resolved the RTI process is likely to produce "similarly unreliable diagnoses" of SLD as the IQ-achievement discrepancy methodology (p. 225).

The second concern is with both the possible continued exclusion of higher achieving students with reading disabilities and the possible over-identification as SLD of non-responders who do not have a learning disability but may be economically disadvantaged or English Language Learners and whose lack of response could possibly be attributed to other factors such as emotional stress or lack of motivation not addressed in the intervention (NJCLD, 2007; Reynolds & Shaywitz, 2009b).

The third concern with the use of RTI is the most significant implementation challenges faced by school leaders. This involves ensuring fidelity in the delivery of evidence-based interventions; also known as treatment validity (Burns et al., 2013; Nelson et al,. 2015; Reynolds & Shaywitz, 2009b). A fundamental assumption underlying the use of data for decision-making is the assurance that data were obtained in an educational environment with adherence to evidence based practices. In order to draw conclusions regarding a student's responsiveness to a program, educators need to evaluate how faithfully a program was implemented in comparison with implementation during an efficacy study (Missett & Foster, 2015).

Many states and school districts operationalize the use of RTI in an MTSS (NJCLD, 2005). However, the literature revealed a lack of information of on the specific policies, procedures, and implementation strategies enacted by school districts and schools to ensure full implementation of an MTSS/RTI framework as specified in IDEIA 2004 and Minnesota special education and early intervening statues. If the RTI process is to be implemented effectively and used as a valid and reliable method for identifying a student's learning disability in Minnesota school districts, it would seem there is a need for the research gap related to implementation of the framework to be addressed.

The purpose of the study was to examine how school district and school leaders in one school district in Minnesota leveraged policies, procedures, and implementation strategies to create the conditions that result in implementation of an MTSS and replacement of the IQ-achievement discrepancy with an RTI measure in a comprehensive special education evaluation. The study supplemented the paucity of literature related to MTSS/RTI implementation in Minnesota. By revealing leadership and implementation practices in one Minnesota school

district, the study intended to provide information that may benefit other school leaders. Both qualitative and quantitative methods were used to answer the following research questions:

1. What policies, procedures, and implementation strategies were employed by school district and education district leaders to facilitate and support implementation of RTI/MTSS?
2. What type of professional development was provided to principals, teachers, and other select staff involved in implementation of RTI/MTSS?
3. What actions did school principals undertake to ensure effective implementation of RTI/MTSS (schedules, team meetings, staffing, resources) in each school?
4. What did teachers' report were their beliefs about RTI?

Participant Selection

A purposive sample was used for the study. A single school district was selected based on the recommendation of the executive director of a 6-member education district reputed to be a leader in implementation of RTI in Minnesota. Gall et al. (2003) described a 'deviant' case sample as one that has a "highly unusual manifestations of the phenomenon being investigated" (p. 625). This participant school district represents an extreme or deviant case sample since its schools were employing the RTI methodology specified in IDEIA 2004 to identify students with a specific learning disability.

Human Subject Approval

In order to ensure compliance with the Federal Policy for the Protection of Human Subjects (45 CFR 46), approval of the study was obtained from the St. Cloud State University Institutional Review Board. In September 2017 the executive director of the education district

introduced the researcher and proposed study to the participating school district's administrators. The researcher was invited to present the proposed study to the school district administrator team. The team included the superintendent of schools, director of curriculum and instruction, school principals, and special education administrators. Following the presentation, the principals of four of the five schools in the district agreed to participate in the study. The school district and education district provided the researcher with a letter of support and consent to participate (Appendix A).

All interview participants signed an IRB-approved informed consent form prior to interviews (Appendix B). Those interviewed received recorded copies of their interviews and were provided with the opportunity to expand on their responses or note omissions. Direct quotes from interviews were only used with permission. Individual identities of participants were not revealed. Survey participants were presented with an IRB-approved informed consent agreement prior to undertaking the online survey (Appendix C). The teacher survey was anonymous. Data were only presented and reported in aggregate form with no more than two demographics presented together.

Instrumentation

Development of interview questions. A four-phase process described by Castillo-Montoya (2016) was used to develop and refine the interview questions and protocol. The four phases included:

1. Ensure interview questions align with the research question.
2. Construct an inquiry-based conversation.

3. Receive feedback on interview protocol.
4. Pilot the interview protocol.

In order to ensure alignment of interview questions with the research questions, three matrices were developed (Appendix D). These varied slightly based on the position of the person being interviewed. According to Castillo-Montoyo (2016) a well-constructed interview protocol assists the researcher with creating a balance between inquiry and conversation (p. 813). The researcher uses "knowledge of contexts, norms, and every-day practices of potential participants to write interview questions that are understandable and accessible to participants" (p. 813). An interview protocol was developed using these guidelines (Appendix E). Both the question alignment matrix and interview protocol were shared with dissertation study committee members and dissertation cohort members for feedback. Cohort members included school administrators and teachers. Recommendations for changes were incorporated.

Development of survey instrument. General education and special education teachers in the four participating schools were surveyed using the Florida Response to Project Intervention/Problem-Solving (RTI/PS) *Beliefs on Response to Intervention Scale* (Castillo et al., 2012) (Appendix G). This self-report scale is designed to examine consensus development and measure educators' beliefs about (a) academic ability and performance of students with disabilities, (b) data-based decision making, and (c) the functions of core and supplemental instruction (p. 48). Research suggested the beliefs teachers hold about a school reform initiative impact their willingness to implement it with fidelity and play a critical role in creating the school climate necessary for successful implementation (p. 42).

The Florida RTI/PS Project had modified a prior 27-item Beliefs Survey to create the 14-item scale. The project had established the technical adequacy–including content and construct validity and internal consistency reliability–of the scale. The researcher further modified the scale for the purposes of the study. Two demographic questions asking teachers to identify the number of years they had served in current their position and highest degree earned were removed.

The study's final data gathering instrument was then comprised of 17 items. The first three questions asked teachers to identify whether or not they were teachers in general education or special education, their number of years' experience in education, and the specific school in which they worked. The survey's remaining questions 14 items gathered information on RTI/MTSS. Respondents rated their agreement or disagreement with the scale's questions on a four-point Likert scale with responses ranging from strongly disagree (1) to strongly agree (4).

Research Design

Merriam and Tisdell (2016) describe a case study is "an in-depth description and analysis of a bonded system" and employs both qualitative and quantitative methods (p. 37). Gall et al. (2003) further defined a case study as an "in-depth study of instances of a phenomenon in its natural context and from the perspective of the participants involved in the phenomenon" (p. 619). The study employed a convergent or parallel, mixed methods design to examine implementation of RTI/MTSS in a purposive sampling of four schools in one school district. The units of analysis were (a) school district office and special education administrators, (b) building principals, (c) school psychologists, (d) instructional services coordinators,

(e) teachers, (f) select interventionists, and (g) school district and education district documents related to RTI/MTSS implementation.

According to Merriam and Tisdell (2016), a case study design is "particularly suited to situations in which it is impossible to separate the phenomenon's variables from their context" (p. 38). A case study methodology was employed for the study because the implementation strategies and leadership actions evidenced throughout the literature as critical for effective implementation of an RTI/MTSS framework are interwoven into the day-to-day fabric of school life and work of school district leaders, school principals, and other school staff members. Case studies gather detailed data from multiple sources within a system and are useful for answering "how" or "why" questions (Gall et al., 2003). Both qualitative and quantitative methods were used in an attempt to generate a rich description from the perspective of the participants and answer some of the 'how' and 'why' questions related to implementation of an RTI/MTSS framework

Reliability and validity. Merriam and Tisdell (2016) discussed the importance of ensuring reliability and validity–often referred to as trustworthiness and rigor–in qualitative research and recommended the use of several strategies to enhance these (p. 237). According to these authors internal validity in a case study "deals with the questions of how research findings match reality" (p. 242). The authors recommended three strategies to address internal validity. These were all employed in the study. The first recommendation was to triangulate data collection and ensure information is collected "from people with different perspectives or from follow-up interviews with the same people" (p. 245). Triangulation was accomplished by gathering data through a variety of methods and from a variety of people and sources.

Documents were analyzed, and interviews were conducted with staff engaged in a variety of roles both in the school district and the education district. In addition, all teachers in the district were invited to participate in a survey.

The second strategy recommended to strengthen internal validity was to engage in 'respondent validation' or 'member check'. This is generally accomplished by soliciting feedback on preliminary finding and testing conclusions on those interviewed (Merriam & Tisdell, 2016, p. 246). As part of the study, school district and education district leaders were provided with preliminary and final conclusions for validation. The third recommendation was to ensure adequate engagement in data collection. To enact this strategy the researcher was available for one on-site day in each building, engaged in ongoing email communication with school district and education district leaders, and followed-up with all interview participants through email. Participants were provided with a recording of their interview and opportunity to add information or expand on their responses.

Reliability in a case study is conceptualized as "dependability" or "consistency" and described by Merriam and Tisdell (2016) as follows:

> … rather than demanding that outsiders get the same results, a researcher wishes outsiders to concur that, given the data collected, the results make sense-they are consistent and dependable. The question then, is not whether findings will be found again, but whether the results are consistent with the data collected. (p. 251)

Strategies recommended to ensure reliability are the same as those already described as important for internal validity, with the addition of an "audit trail". A researcher develops a good audit trail by ensuring the process through which data is obtained and conclusions drawn are clearly described.

Finally, Merriam and Tisdell (2016) examined the issue of external validity in a qualitative study. These authors concluded:

> Probably the most common understanding of generalizability in qualitative research is to think in terms of the reader or user of the study. *Reader or user generalizability* involves leaving the extent to which a study's findings apply to other situations up to people in those situations. (p. 256)

In order to enhance external validity or generalizability these authors recommended that a researcher pay careful attention to sample selection and develop a comprehensive, highly descriptive description of the setting, participants, and findings. The district was selected as a purposive sample for the study based on the recommendation of the executive director of a Minnesota education district reputed to be a leader in implementation of RTI, and because its schools were employing the RTI methodology specified in IDEIA 2004 to identify students with a specific learning disability. In order to enhance the possibility of transferability of the findings to another school district in Minnesota the researcher attempted to generate a complete and rich description of the case as recommended by Merriam and Tisdell (2016).

Procedures and Timeline

All data used to answer the research questions were obtained in November and December 2017.

Phase I q**ualitative**. Documents were obtained in early November. These were located on the school district or education district website or provided to the researcher by the school district director of curriculum and instruction or education district leadership. In addition to strategic planning documents, job descriptions of select staff such as school psychologists and instructional services coordinators were also obtained and coded. These documents were read and coded in Dedoose Version 7.0.23-a web application for managing, analyzing, and presenting

qualitative and mixed methods research data (SocioCultural Research Consultants, 2016). These documents were analyzed and coded using the codes listed in Appendix F.

Phase II qualitative. Next, individual interviews were conducted with select school district and education district staff members over a four-day period. Interviewees included school principals, special education administrators, the director of curriculum and instruction, school psychologists, and instructional services coordinators. School principals were also invited to identify for interviews staff members who are responsible for work related to RTI/MTSS implementation in their school. Two elementary principals invited and scheduled licensed reading and math interventionists to participate.

Each of the school principals selected one day in November 2017 for the researcher to be on-site in their school to conduct interviews. School district and special education administrators were interviewed through Google Hangouts. The interview protocol was followed. Interviews were recorded. Interviewees received recorded copies of their interviews and were provided with the opportunity to expand on their responses or note omissions. The recordings were loaded into Dedoose Version 7.0.23 and coded by the researcher through the use of timestamps using the same set of codes employed during the document analysis (Appendix F).

Phase III quantitative. Following the onsite interviews, teachers in each of the four buildings were invited to complete the Florida Problem Solving/Response to Intervention (PS/RTI) Project *Beliefs on Response to Intervention Scale* (Appendix G). The Statistical Consulting and Research Center at St. Cloud State University prepared the online survey and provided the link to the researcher. The researcher distributed the link to principals of the four

buildings who, in turn, distributed the link to teachers in their buildings. A follow-up request to complete the survey was sent after 10 days.

Data Analysis

Qualitative data analysis. The Dedoose Version 7.9.23 web application for managing, analyzing, and presenting qualitative and mixed-methods research data was used to apply pre-set and emerging codes to excerpts of text from school district and special education cooperative documents and the interview recordings. Codes were developed using both a deductive and inductive process. A deductive process was used to create a set of codes based on key concepts in the theoretical framework and the literature. Emergent codes were added when the documents or interview participants identified a strategy or challenge not previously identified a code. Using both a deductive and inductive process for analysis allowed the researcher to identify concepts and strategies already evident in the literature in addition to possibly identifying new information or themes with which to build potential hypotheses and make recommendation for practice or further research. The program quantified code applications and code co-occurrences across the documents and recorded interviews.

Quantitative data analysis. The *Beliefs on Response to Intervention Scale* results were analyzed with the support of the State Cloud State University Statistical Consulting and Research Center using the Statistical Package for the Social Sciences (SPSS) Version 22. The first three questions asked respondents to identify their teaching assignment, number of years' experience teaching, and the school in which they worked. Following these questions, respondents rated their agreement or disagreement with the scale's 14 questions on a four-point Likert scale with responses ranging from strongly disagree (1) to strongly agree (4). The scale contained domain

items specific to measure teachers' beliefs in (a) the function of core and supplemental instruction, (b) the academic abilities and performance of students with disabilities and (c) data-based decision-making. The Florida PS/RTI Project recommends using two techniques to examine data obtained from the scale. The first of these was to calculate the mean score and standard deviation for each of the 14 items on the scale. The second recommended technique was to examine the frequency of distribution of responses for each response item in each domain.

Summary

The parallel, or convergent, mixed methods case study employed both qualitative and quantitative instruments to gather and analyze data on implementation of an RTI/MTSS framework in one school district in Minnesota. Chapter III provided detailed information on the participant selection, the human subject approval process, and the document analysis, interview, and survey instruments employed to gather data with which to answer the research questions. Additionally, information on reliability and validity in the research design was provided. Chapter IV presents the qualitative and quantitative findings for each of the research questions.

Chapter IV: Results

Introduction

The promise of using RTI as a valid and reliable indicator of a learning disability cannot be fully realized until school districts and schools reach high levels of implementation fidelity in their program delivery, problem-solving processes, and use of data for decision-making. Jimerson et al. (2007) claimed there is "a paucity of resources that synthesize essential knowledge regarding the conceptual and empirical underpinnings of RTI and actual implementation" (p. 7).

The purpose of the study was to examine how school district and school leaders in one Minnesota school district leveraged policies, procedures, and implementation strategies to create the conditions that resulted in implementation of an MTSS and replacement of the IQ-achievement discrepancy with an RTI measure in comprehensive special education evaluations. The study employed a convergent or parallel, mixed methods design and was guided by the follow research questions:

1. What policies, procedures, and implementation strategies were employed by school district and education district leaders to facilitate and support implementation of RTI/MTSS?
2. What type of professional development was provided to principals, teachers, and other select staff involved in implementation of RTI/MTSS?
3. What actions did school principals undertake to ensure effective implementation of RTI/MTSS (schedules, team meetings, staffing, resources) in each school?
4. What did teachers' report were their beliefs about RTI?

Following a description of the sample, chapter four provides a summary and analysis of the qualitative and quantitative data collected during the study. Data were organized by research questions. By revealing leadership and implementation practices in one Minnesota school district, the study intended to provide information that may prove beneficial to other school leaders.

Description of the sample. A purposive sample was used for the study. A single school district was selected for the study based on the recommendation of the executive director of a Minnesota education district reputed to be a leader in implementation of RTI in Minnesota. Gall et al. (2003) described a 'deviant' case sample as one that has a "highly unusual manifestations of the phenomenon being investigated" (p. 625). This participant school district represented an extreme, or deviant, case sample since its schools were employing the RTI methodology specified in IDEIA 2004 to identify students with a specific learning disability.

The school district enrolled less than 4,000 students of which 13.5% were identified for special education services in 2017-2018. The percentage of students scoring at or above proficiency in reading and mathematics on the Minnesota Comprehensive Assessments (MCA III) was above state averages every year between 2013 and 2017. Students in the district were enrolled in one of five schools. Following a presentation of the proposed study to the school district's administrative team in September 2017, principals of four schools agreed to participate in the study. Three of the participating schools served elementary students in grades five or lower. The fourth school was a high school serving students in grades nine through grade 12.

The sample school district belonged to a Minnesota education district that managed special education, English language learner (ELL), and Adult Basic Education services for its

five-member school districts. Minnesota Statute 123A.12 permits school districts to enter into a written agreement to establish such an education district in order to increase cooperation and coordination among school districts and thereby increase educational opportunities for learners.

Results for Research Questions

Research question one. *What policies, procedures, and implementation strategies were employed by school district and education district leaders to facilitate and support implementation of RTI/MTSS?*

Research question one was answered through document analysis and interviews with school district and education district leaders and school principals. The set of codes used to answer this question can be found in Appendix F. Through the coding process the researcher attempted to locate evidence of use by leaders of the organizational drivers identified by Fixsen et al. (2009) in the theoretical framework for the study. These drivers are essentially the strategies or mechanisms shown to support effective implementation (Fixsen et al., 2009). Codes were also used to identify attributes of policies–authoritative, consistent, powerful, specific, stable–identified by Desimone (2002) as contributing to successful implementation of school reform models. Codes were also used to locate evidence of 'linkages' between central offices and schools. Johnson and Chrispeels (2010) examined the importance of these linkages–ideological, resources, communication, relational, and structural–and how they interact during school reform efforts. In addition, emergent codes were added when interview participants identified a challenge, practice, or concept related to the research question that had not previously been assigned a code.

Policies and procedures. For the purpose of the study the definitions of 'policies' and 'procedures' found at businessdictionary.com was used:

> A set of policies is principles, rules, and guidelines formulated or adopted by an organization to reach its long-term goals and typically published in booklet or other form that is widely available. Policies and procedures are designed to influence and determine all major decisions and actions, and all activities take place within the boundaries set by them. Procedures are the specific methods employed to express policies in action in day-to-day operations of the organization. Together, policies and procedures ensure that a point of view held by the governing body of an organization is translated into steps that result in an outcome compatible with that view.

Using this broad definition of 'policy', the school district documents found to facilitate and support the implementation of RTI/MTSS were primarily the organization's World's Best Workforce Report and the Read Well Local Literacy Plan. These school district plans articulated the organizational alignment of goals and strategies and established the RTI/MTSS framework as one of the primary mechanisms for attaining the school district goal of improving student achievement. In addition, the education district Problem-Solving Handbook provided a considerable level of specificity on implementation procedures.

The Minnesota Legislature passed the World's Best Workforce bill in 2013. This bill required every school district in the state to have a strategic plan in place to achieve each of the following:

1. All students are ready for kindergarten.
2. All third graders can read at grade level.
3. All racial and economic gaps between students are closed.
4. All students are ready for career and college.
5. All students graduate from high school.

Each year school districts submit a World's Best Workforce Report to the Minnesota Department of Education. This report provides information on the strategies enacted by the school district to meet each of the five requirements and annual progress made. The school district's World's Best Workforce Report 2017-2018 functioned in a manner consistent with the definition of 'policies' above by providing 'principles, rules and guidelines formulated or adopted by an organization to reach its long term goals… '. This was evident in extracts such as:

> We are committed to continuing the tradition of excellence by providing relevant curriculum, data-based decisions, collaborative commitment to student and teacher learning, and building a continuous improvement system.

The plan specified both the school district annual goals aligned to the five World's Best Workforce requirements and the strategies enacted for achieving these goals. The school district's overall academic goal for the year 2017-2018 was to increase the number of students meeting or exceeding proficiency on the Minnesota Comprehensive Assessments (MCA III) in reading and mathematics. On page one of the document, the following was listed as the first district-wide support to achieve this goal:

> To support students in these five areas, [the district] has a comprehensive Response to Intervention Program (RTI).

When addressing how the school district would meet the World's Best Workforce requirement of "graduating all students from high school", the following strategy was listed:

> Students who are not proficient on their MCA exams, MAPS assessments or other measures, may be referred to the Pupil Support Team and our RtI plan is implemented. Students will receive varying levels of support.

The World's Best Workforce Plan also provided information that revealed the relationship between the education district and the school district and how they intended to work in tandem to define and achieve student goals. For example:

> [The] district uses a variety of Screening/Benchmark, Diagnostic, Progress Monitoring and Summative Assessments (for a complete list, please access the Read Well Plan linked above). Our targets on these assessments are developed with the [education district].

School districts in Minnesota are also required to submit an annual Read Well Local Literacy Plan. The plan focused on early reading and required school districts to identify students who were not yet reading at grade level, notify parents, provide reading intervention to accelerate growth, monitor student progress, and ensure all licensed teachers were provided with professional development in reading and writing instruction appropriate for their positions. As indicated by the following excerpt, the plan included 'principles, rules, and guidelines' specific to reading instruction in the school district:

> The mission of our curriculum and instruction is to develop, design, and align the foundational processes of curriculum, instruction, and professional learning for ALL learners in our district

The Read Well Local Literacy Plan included information on procedures or 'specific methods employed to express policies in action in day-to-day operations of the organization' and articulated how an MTSS supported the goals. The 2017-2018 school district plan stated:

> For over a decade the [school district] has utilized the Multi-Tiered System of Support (MTSS) framework. The MTSS framework is a multi-level prevention system including three levels of intensity or prevention.

A detailed description of the curriculum materials and type of instruction at each tier in the study's school district MTSS was included. The plan also prescribed the precise screening, diagnostic, and progress-monitoring assessments to be used and described the data-driven

process through which students are moved through the tiers of an MTSS. Specific to district assessments for screening all students and identifying those who may be at-risk, the plan stated:

> Criterion referenced target scores have been established for each measure at each administration time that reflect expected grade level performance for that measure. The target scores are established annually by the [education district].

Analysis of the education district Problem Solving Manual revealed that the document provided information on policies and procedures used to facilitate and support implementation of RTI/MTSS. The 28-page document included forms to guide each stage of the problem solving process for school teams. The problem-solving manual specifically referenced IDEIA 2004 and the use of RTI to determine whether or not a child had a specific learning disability stating:

> When the Individuals with Disabilities Act 2004 (IDEA) was reauthorized, language was added that allows school districts to diagnose learning disabilities (LD) by measuring student response to scientifically-based instruction/intervention. Practitioners and researchers anticipate that this will make the LD classification process more meaningful.

The manual also stated the following regarding the 2004 legislative change:

> This was in response to research showing over-identification of students with learning disabilities when, in fact, they weren't getting effective instruction, particularly in the area of reading (e.g., LD Summit 2001; National Reading Panel 2000; National Reading Conference). This was good news for [education district] practitioners. The law had finally caught up with what we had been doing for many years!

The problem-solving manual also expressed a clear ideological orientation consistent with the proponents of the RTI methodology:

> We have come a long way from advocating for the separation of students with disabilities from those students who are not classified as disabled to understanding that most students can derive benefit from receiving their instruction through general education efforts. In order to accomplish this 'general education' and 'special education' are no longer defined as places, but indicate the degree of instructional intensity needed to drive adequate educational progress. (Tilly, 2008)

Furthermore, the problem-solving handbook provided specific information on procedures to be used in member schools at each level of the MTSS and included testing windows and timelines in addition to target scores for each grade level. The excerpt below provides an example of the level of procedural specificity combined with the ideological underpinnings found throughout the manual:

> Once the team has identified the problem and developed a discrepancy statement, the next step is to develop an alterable hypothesis about why the problem is occurring. Student difficulty is considered a result of a mismatch between student need and the resources being provided. Rather than considering a problem to be the result of inalterable student characteristics, teams must focus on changes that can be made to instruction, curriculum, or environment that would result in a positive student outcome. (Deno, 1989)
>
> For example, rather than considering a student's failure to master basic math facts to be the result of low IQ or lack of home support, a team may consider whether increasing student motivation, providing additional opportunities, or increasing levels of explicit instruction with immediate feedback would effectively ameliorate this problem. This does not mean that factors including low IQ or lack of home support do not exist; however, it is inefficient for teams to spend time discussing factors over which the have little or no control when there are other avenues for intervention in which they can affect timely and meaningful change.

However, it is important to note that in an interview with special education administrators the Problem-Solving Manual was described as:

> … a guiding document for the district. Our relationship with our districts as it relates to RTI and MTSS and as it relates to the consulting we do with special ed, it really is, at the end of the day, guidance and a recommendation. We don't have the control over the full implementation of any policies and procedures.

Implementation strategies. As previously reported, the policies and procedures detailed above helped ensure organizational alignment and also provided a considerable level of specificity to guide day-to-day actions and decisions related to RTI/MTSS in school buildings.

Evidence for the use of additional organizational drivers or strategies was revealed in interviews with school principals, school psychologists, instructional services coordinators, and academic interventionists and through examination of the job descriptions of school psychologists and instructional services coordinators.

The findings revealed that the school district and the education district played significant roles in supporting the implementation of the of RTI/MTSS framework. Three primary findings revealing the strategies used to facilitate and support implementation of RTI/MTSS consistently emerged from the document analysis and the interviews. The first finding was the collaboration between the education district and the school district in implementation. Leaders of both entities appeared to use formal and informal data systems as a strategy to measure implementation and make adjustments based on feedback. Additionally, a significant level of specificity in procedural guidelines was provided to school practitioners. The second finding was the non-traditional role of school psychologists, their role in developing staff competency, and the collaboration between school principals and school psychologists. The third finding was the active role of school principal and the adaptive leadership strategies they used to address the complexities of implementing an RTI/MTSS framework.

Participant interviews confirmed the document analysis findings that the education district initially adopted the ideological underpinnings of RTI and established this in member school districts. However, it appeared that school district and education district leaders collaborated to continuously improve and advance implementation of the RTI/MTSS framework. The education district provided support in the form of personnel, professional development, and specific procedural guidelines. The school principals developed the building infrastructure and

strategized on how to most effectively utilize the staffing resources and professional developed provided by the special education cooperative based on the unique needs of their staff and students.

Historically, the RTI/MTSS initiative was begun in the education district and has been in existence in both the education district and, therefore, the school district for many years. As described by special education administrators, the work with RTI was initiated in the early 1990s under prior education district leadership. The initial focus of RTI was on assessments and the use of general outcome measures for universal screening and progress monitoring. At that time, the education district collaborated with researchers at the University of Minnesota and, even prior to IDEIA 2004, applied to the Minnesota Department of Education for a waiver to use the RTI methodology as part of a comprehensive evaluation to quality students for SLD. This was done prior to the establishment of a tiered system of interventions. Therefore, some components of what would become the current RTI/MTSS framework were already in place when IDEIA 2004 was passed. According to one special education administrator this long history has been helpful. In this school district an RTI/MTSS has been in place for so long that it has become "a way of doing business". This sentiment was echoed by one principal who stated, "…we've done this for so long… when you say RTI/MTSS… that's just what we do".

The education district provided ongoing implementation support through furnishing school psychologists and the four instructional services coordinator positions, a student data system, and professional development. Interviews with special education administrators revealed these supports were in place to aid teams in the problem-solving processes and were explicitly intended to serve more than just special education students and teachers. One special education

administrator stated that the philosophy was to improve "outcomes for all kids" with the expectation that supporting general education will ultimately improve outcomes for special education.

The use of formal and informal data inputs to support decision-making and a commitment to continuous improvement was evident throughout. Some of the staff members interviewed referenced turbulence in the early years of the RTI implementation. During that time school practitioners were often lacking a full knowledge and understanding of the concept of RTI and the system that was being implemented. At that time an understanding of the 'why' of or rationale for the use of RTI was absent, particularly among classroom teachers. In addition, the importance of evidence-based Tier 2 interventions aligned to student needs and core curriculum was not fully understood. However, few years prior to the study the education district had undertaken an RTI/MTSS. According to the executive director:

> When we did the audit, we did interviews with all building principals using a rubric. This allowed us to have a more objective way of identifying where there maybe had been some drift or where we needed to put some more resources into providing professional development.

The audit appeared to have been a significant undertaking and helped the education district and school district determine the actual status of implementation. When the data were collated, special education administrators met with district and school administrators to review the findings. School district and education district administrators then developed plans to address the professional development and programming gaps revealed.

At the time of the study, one of the recent changes in implementation of RTI/MTSS was a new student data information system. Many of those interviewed commented on the exhaustive and often frustrating process of locating a student data system with a required level of

functionality. At least two other systems had been used prior to selecting the system currently used. However, interview participants were cautiously optimistic about some of the attributes of the new system and described the importance of adopting the best tool possible for student data analysis. Principals, school psychologists, and the instructional services coordinators all expressed concerns about the effects on teachers of changing the system many times and each, in their own way, described how they attempted to support teacher teams in learning the new system and mitigating their frustrations.

Another recent change to support the RTI/MTSS process was the addition of new a position of data facilitator. In discussions with building principals, the education district determined that providing opportunities for general education teachers at each grade level in each building to serve as data facilitators would build the capacity of general education and classroom teachers to understand and use student data. It was hoped that this appointment of teachers as data facilitators would also empower general education teachers and, through this, improve buy-in to use of this data to monitor the effectiveness of instruction and intervention and teacher knowledge of the RTI/MTSS framework and processes. In addition to training, a stipend would be paid through the education district for teachers serving in this position.

Principals and school psychologists alike described the role of the school psychologist in the school district as ‘non-traditional’. It was evident psychologists worked closely with school principals and provided day-to-day building leadership for effective implementation of the RTI/MTSS framework. Document analyses revealed that this leadership role was intentionally created. School psychologists were education district employees and their job descriptions clearly specified an expectation of a leadership role in RTI/MTSS implementation and an

expectation of a high level of collaboration with school principals. The first responsibility cited under ‘service activities’ on the school psychologist job description stated:

> The school psychologist, in partnership with building principals… will assist in effective and efficient school-wide implementation of an RTI framework for both academics and social/behavior.

The second responsibility stated:

> The school psychologist will facilitate the problem solving team meetings in each building, organize and prepare for all meetings, and ensure that all documentation is completed in a timely manner and provide important implementation support.

All school principals, school psychologists, and special education administrators referred to the importance of the school psychologist position and how essential the collaboration between school psychologists and school principals was for RTI/MTSS implementation. Each revealed that staffing adjustments had been made a few years prior to the study to ensure that each building was allocated a dedicated school psychologist. In this staffing adjustment, part-time social worker and counselor positions, which were shared between buildings, were eliminated and in their stead a school psychologist was allocated to each of the three elementary schools. According to one special education administrator, school principals have come to rely on their school psychologists and are actually “very possessive of their psychs”.

All four principals and school psychologists consistently referenced a significant amount of collaborative planning and behind-the-scenes work in the areas of planning for meetings and building school schedules. According to one school psychologist:

> [school principal] and I do a lot of work around this because… we only have so many resources and we really want to be creative

Further, the psychologist stated how important it was that school principals:

> Not think of your school psych in that testing capacity, we can do so much more than that… I meet with [school principal] and we talk every single day, putting things on each others radars, tackling barriers together…

One principal offered regarding RTI/MTSS:

> My role is interchangeable with the school psych[ologist]. If you're talking about MTSS in regards to supports with academics, it's really co-facilitated between the school psychologist and myself. We are responsible for, just at very minimum, making sure all team members are here, what days we meet, when we meet, and ensuring team members are trained. The training has come from the [education district] but has changed a little bit. It has morphed just because of the needs… every building is a little bit different so the problem solving process really comes through our psych[ologist] to help support the new staff members that directly support our MTSS structure and programming in our building.

School psychologists and principals all discussed the importance of developing team meeting agendas and ensuring the data and information needed at a meeting were readily available. Principals described the importance of the school psychologist facilitation of the problem-solving meetings. A special education administrator stated the psychologists responsibilities were allocated roughly fifty percent of the time to more traditional activities related to special education and fifty percent to systems level work in collaboration with the school principal in support of the RTI/MTSS.

The special education administrators also described how they considered this 'non-traditional' role when hiring school psychologists and stated:

> We're looking for someone who doesn't want a traditional role, someone who's coming with some knowledge of RTI/MTSS. A lot of general leadership qualities, a personality that is little more bold and outgoing… Finding a good fit, just because they do work so closely with the school principals, where we've seen the most success in buildings, they have to be able to work with the principals

To support the collaboration, the education district facilitated monthly meetings with both the school principals and school psychologists and another meeting just for school psychologists.

Furthermore, all four buildings had a process in place for monitoring fidelity in the delivery of interventions and this was primarily the responsibility of school psychologists. To accomplish this they were expected to observe and providing feedback to interventionists on a regular basis. In general, the study revealed how the use of team processes, forms, and templates developed by both the school psychologists and the instructional services coordinators facilitated effective implementation and addressed the challenges of ensuring fidelity in delivery of evidence-based intervention, the integrity of the problem solving process, and the application of valid and reliable decision rules.

Research question two. *What type of professional development was provided to principals, teachers, and other select staff involved in implementation of RTI/MTSS.*

Question two was answered through document analysis, interviews with school district and education district staff members, and the teacher survey. A set of codes was developed to answer the question and applied to documents and interviews (Appendix F). Evidence of use of the competency-building components of the theoretical framework and other references to professional development were located both in the documents and interviews. In addition, emergent codes were added when interviewed participants identified a challenge, practice, or concept related to question two and not already allocated a code.

The study revealed that professional development was provided in a variety of ways and had evolved and changed over the years based on need. Document analysis and interviews indicated the education district provided the majority of the professional development related to RTI/MTSS. A special education administrator explained the role of the education district in professional development as follows:

> They [member school districts] look to us to provide professional development related to MTSS and RTI. So any sort of training that we think they need or they ask us to provide, is built into our professional learning plan here at [the education district]

According to one principal:

> We're fortunate to belong to [the education district]. They have a lot of resources so sometimes we send people to [the education district location] to take part in training and professional development. For instance, in August we take a building data team to [the education district location] along with all the other teams throughout [the education district]. Basically this is an opportunity to look at your data and plan and strategize, but to do this with people around you to guide and support.

The professional development was provided using a variety of methods. The education district Professional Learning Catalog listed many professional development offerings specific to RTI/MTSS. The catalog included training in administration and scoring of assessments, training in intervention delivery, and networking opportunities for secondary mathematics and literacy interventionists. The instruction services coordinators appeared to deliver many of the professional development offerings. In addition, interviews revealed that school principals could make individual requests for professional development courses or modules based on the needs of their buildings. Furthermore, a virtual training was available to provide new problem-solving team members and teachers an understanding of the RTI/MTSS framework and common vocabulary. Prior to the 2015-2016 school year, the education district provided intensive four-day problem solving training annually but in recent years had modified this to an on-site building level coaching model for problem-solving teams. This included opportunities for pre-meeting reflection, meeting observation, and feedback.

The instructional services coordinators were content experts in the area of elementary literacy, elementary mathematics, secondary literacy, and secondary mathematics. An

examination of the job description for these four positions revealed broad responsibilities for professional development and support of school building teams in the implementation of RTI/MTSS. The first responsibility specified in the activities for this position was as follows:

> Provide training for administrative and instructional personnel on agreed-upon evidence-based models of assessment, instruction, and service delivery in the area of Elementary Mathematics [Elementary Reading, Secondary Mathematics, Secondary Reading].

The list of activities under this responsibility included the following:

> Design and implement staff development in evidence-based practices in core, supplemental, and intensive intervention.
> A regular schedule of in-service training will be provided annually.
> In-service training on specific evidence-based topics will be provided as requested.

The job description for the position also contained specific references to consultation with principals, training and supporting grade level teams, and demonstration teaching or coaching. The extract below provided evidence that, in addition to program support and professional development, the instructional services coordinators were also expected to collaborate with school districts on general RTI/MTSS program organization:

> Work with [the] school district on the development and implementation of a multi-tiered service delivery model that makes use of available resources by coordinating special programs such as special education and Title I in ways that meet legal requirements and yet allow for a flexible program for students and effective use of resources.

During interviews the four instructional services coordinators each referenced the annual one-day training in August during which they convened school teams including data facilitators, principals, school psychologists, and curriculum directors on-site at the education district building as an important component of the support they provided. One of the elementary coordinators stated:

> [After August) the rest of the training is generally on-site. We attend their benchmarking meetings, which are three times a year and then in between those meetings building teams have their progress monitoring meetings so we try to attend at least a few of those each time.

For the two elementary coordinators, this involved working with all seven elementary schools in the education district, necessitating availability for 55 school teams. One described the complex work of supporting problem-solving teams in reflecting and analyzing student progress or lack thereof:

> We spend time digging into why [students] not responding and develop a new intervention plan for those students… then we work with the problem-solving teams… we try to guide and assist… it takes a long time for people to wrap their heads around it and see what we're trying to do… we try through questioning and guiding to kind of lead them gently to an understanding of what needs to be done.

Interviews revealed that the instructional services coordinators attempted to be responsive to both individual schools and education district needs for professional development. Each of the instructional services coordinators referenced the need for staff training in the new student data system. The elementary coordinators described how they were trying to attend as many team meetings as possible to provide timely professional development for the use of the system. According to one school psychologist the instructional services coordinators are a "very, very helpful resources… they guide the teachers in conversations, serve an extra resource, and provide materials".

Interviews with school principals and school psychologists indicated that school principals worked within the school district system and with the education district but planned and paced delivery of professional development based on the unique needs of their own staff and students. Sometimes principals provided this training internally with their own staff and sometimes they requested support from the education district. One principal stated that the four-

day education district problem solving training was very helpful initially but was more philosophical in nature. She reported that the most helpful recent training provided by the education district personnel was on using the data and understanding research-based instructional and the efficacy of various intervention strategies.

Another principal mentioned a building goal that involved utilizing the expertise of staff within the building for collective learning. A school psychologist described how the school psychologist and the licensed interventionist conducted training for paraprofessionals who provide interventions in the building. However, in describing how this training needed to be continuous she stated, "…just when I think we've got it down sometimes I see holes in skill or understanding." A third principal discussed how she established her own pace for training all staff in the building based on observed need - a timeline that was not always synchronized with the other buildings. A fourth principal summarized that a subsequent year's goal on professional development related to RTI/MTSS in any given year was based on a year-end review of progress in the prior year. Once the building goals were established professional development was planned based on these goals for the upcoming year.

Research question three. *What actions did school principals undertake to ensure effective implementation of RTI/MTSS (schedules, team meetings, staffing, resources) in each school?*

Question three was answered through document analysis and interviews with school principals and other staff members. A set of codes was used to identify evidence to answer this question (Appendix F). These codes attempted to identify evidence of technical and adaptive leadership skills identified by Fixsen et al. (2009) in the study's theoretical framework.

Additional codes identified evidence of how principals managed the school schedule, team meetings, staffing, and resources. In addition, emergent codes were added when interview participants identified a challenge, practice, or concept related to question three and not already allocated a code.

The importance of principal leadership in the day-to-day management of the RTI/MTSS framework was revealed in all interviews. Each of the principals stated that the primary role they played in the implementation of RTI/MTSS was to ensure that logistical and infrastructure components were in place. The most consistent theme that emerged from the interviews regarding principal leadership was that they were knowledgeable about RTI/MTSS and actively engaged in its day-to-day implementation. As stated by one principal:

> If your principal isn't willing to be at the table, hands dirty, and knowing what's going on you're going to struggle. I can't sit in my office and ignore what's going on.. I can go in to a classroom and do an observation as part of a functional behavior assessment for a team because my schedule is more flexible.

And another principal:

> You have to have a knowledgeable and engaged administrative team, if you don't RTI is going to fail.

It is important to note that education district personnel also credited school district principals with implementation success. According to one special education administrator, effective implementation of the framework relied heavily on building principals. As stated by one special education administrator: "It's not going to work if we don't have a principal that wants it to work and is willing to work collaboratively". Principal leadership in implementing the RTI/MTSS framework involved planning for the logistics such as building and meeting

schedules, collaborating with school psychologists and interventionists, and responding to the unique needs of their own staff and students at any given point in time.

The first logistical item mentioned by all principals was the importance of building a master schedule that allowed time for intervention (Tier 2 or Tier 3) in addition to core curriculum and instruction (Tier 1). According to one, this was the way a principal could have the "greatest impact" on the RTI/MTSS framework.

In each of the elementary schools, intervention was provided during a "what I need" (WIN) block. The WIN blocks were scheduled at different times for each grade level in order to ensure that interventionists and special education teachers would be available as needed. This had been a departure in recent years from the typical elementary school schedule in which the principal schedules only specialists' (physical education, music, art, media) times for each classroom and then each classroom teacher worked around these times to individually schedule core mathematics and reading at their own discretion. However, in order to build a schedule with guaranteed and viable Tier 1 and intervention blocks for Tier 2 and Tier 3, principals in the district also established when reading, mathematics, science, and social studies instruction would be taught in each classroom.

This change involved a loss of individual classroom teacher autonomy, and each of the principals discussed how he/she generated buy-in and support for the model. One principal talked about reminding teachers that the building functions as a system and that this was necessary to implement Tier 2 and Tier 3 interventions. Another principal mentioned the challenges of changing the schedule at the end of the first year in the building to ensure intervention personnel were available for each grade level. Further, the principal described a

process of surveying all teachers on the needs and challenges inherent in the current system in preparation for this change. The survey information was presented and discussed in staff meetings and with teacher leadership teams to help staff members understand the rationale and build support for the schedule.

The second logistical item each of the principals noted was that of organizing teacher teams and scheduling meetings to review student data, place students in intervention, and monitor progress or response. All principals reported that they had adjusted this over the years they had served as principal in the building. According to one:

> having a good schedule and a good meeting structure for people to have a reasonable chance to communicate and hear how it's going… I can't stress enough how important that is

One school psychologist described how the school principal built a "master meeting schedule". Two principals described how they had tried many different ways of scheduling meetings and organizing teams for this work over the year. Sometimes academic and behavior progress was reported out at the same meeting, other times these were separate meetings. This logistical work of time and schedules was consistently identified by as one of their greatest implementation challenges.

In addition to ensuring the schedule and meeting infrastructure was in place, each of the principals discussed how they spent a significant amount of time collaborating with the building school psychologist and supporting data-facilitators and interventionists. They relied on school psychologists to facilitate team meetings, serve as a resource for teachers, and respond to daily student needs. However, they appeared to do considerable behind-the-scenes work with school psychologists in building meeting agendas and considering the unique needs of both staff

members and students. When describing the expanded role of the school psychologist in the building a principal stated:

> …your school psych can't be an 'I'm going to just sit in my room and test' school psych, they can't function like that any more.

Interviews also revealed that principals understood the importance of district level coordination and collaboration with one another and special education administrators. One principal described the systemic importance of ensuring Tier 1 curriculum alignment across all buildings and credited the school district's leadership curriculum and instruction leadership with recent progress in this area.

In regard to differentiation based on the unique needs of their staff members and students, a principal provided an example of working with the school psychologist and a school team to develop a hybrid intervention using core curriculum and the University of Minnesota Center for Reading Research PRESS intervention protocol. Another example was different timelines used in training staff members on the new student data system in each building. While all schools were using this system, in some buildings all teachers had already been trained at the time of the study and in others the data leads and school psychologists were trained and were gradually building classroom teacher capacity on a case-by-case basis. These differences were based on the principals' judgments of the readiness and needs of their staffs.

One of the differentiators among the schools was the different resources that were available to each building. School principals identified not having enough resources as one of their greatest implementation challenges. For example, one of the elementary could avail of Title I funds to providing intervention staffing for Tier 2 and Tier 3 intervention. The non-Title I schools utilized the Alternative Delivery of Specialized Instructional Services (ADSIS) funding

provided by the Minnesota Department of Education. Minnesota Statute 125A.50 allows school districts or schools to apply to use these funds for pre-referral interventions through a special bi-annual application and reporting process. The special education cooperative and school principals developed and submitted this application collaboratively.

In the case study district, there did also not appear to be district level coordination or consideration for equity of resources among the schools. Resources available for Tier 2 and Tier 3 interventions in each building were primarily based on past allocations that rolled forward from year to year. Two principals described occasionally negotiating with school district business office administrators to make a case for an additional need. Principals generally expressed an understanding of the rationale for the budget limitations and were appreciative of the resources they were allocated, but also expressed frustration with the lack of a clear, consistent, reliable, aligned, and data-driven process for accessing additional funds to hire additional specialized staff to provide interventions.

Research question four. *What did teachers' report were their beliefs about RTI?*

Teachers in the four participating schools were surveyed using the Florida PS/RTI *Beliefs on Response to Intervention* Scale (Appendix G). This self-report 17-item scale is designed to develop consensus on the impact of professional development by measuring educators' beliefs about (a) academic ability and performance of students with disabilities, (b) data-based decision making, and (c) the functions of core and supplemental instruction (p. 42). Research suggested the beliefs teachers hold about a school reform initiative impact their willingness to implement it with fidelity and play a critical role in creating the school climate necessary for successful implementation (p. 42).

The survey link was sent to 165 teachers in the four schools. Data were analyzed using Statistical Package for the Social Sciences (SPSS) Version 22 with the support of the St. Cloud State University Statistical Consulting and Research Center. The first three questions gathered demographic information. Respondents were asked to identify as teachers in general education, special education, or 'other'. They were then asked to provide their number of years' experience in education, and the school in which they worked. Of the 72 initial respondents, 16 completed only the first three demographic questions. This reduced the number of valid responses, those who completed the entire survey, to 56. Following an examination of the job titles reported by the six respondents in the 'other' category, three were included in the general education group, one was included in the special education group, and one was eliminated due to identification as an administrator. The final response rate was 32%.

Table 2 reports 47 of the 55 respondents, or 85.5%, were general education teachers and eight respondents, or 14.5%, were special education teachers. Table 3 reveals that 21 of 55 respondents, or 38.1%, reported less than 10 years' experience, 18 respondents, or 32.7%, reported having 10-19 years' experience, and 16 respondents, or 29.1%, reported having 20 or more years of experience in the teaching profession. The name of the school in which respondents taught was not reported.

Table 2

Respondent Teaching Assignment

Teaching Assignment	*n*	%
General Education	47	85.5
Special Education	8	14.5
Total	55	100.0

Table 3

Respondents Teaching Experience

Years Teaching	*n*	%
1 - 9	21	38.1
10 - 19	18	32.7
More than 20	16	29.1
Total	55	100.0

The remaining 14 items on the scale are designed to measure educators' beliefs about Response to Intervention. Respondents rated their agreement or disagreement with the scale's questions on a four-point Likert scale with responses ranging from strongly disagree (1) to strongly agree (4). The scale can aid those responsible for implementation of RT/MTSS frameworks "identify commonly held beliefs that will likely help or hinder implementation efforts" (p. 42). Initial administration of the scale can assist in establishing a baseline. Then the scale can then be re-administered annually to measure long-term changes and the impact of professional development.

The Florida PS/RTI Project recommended the use of two techniques for analyzing the survey responses. The first was to calculate the mean rating for each question to simply "determine the average belief level reported by educators" (p. 48). The second was to compute the frequency of responses for each item. Basically, this involved determining the number and percent of respondents who strongly agreed, agreed, disagreed, or strongly disagreed with each

item presented. The Florida PS/RTI Project had established the content and construct validity and internal consistency of the following three domains within the scale:

(c) The functions of core and supplemental instruction (Questions 1, 2)

(a) The academic ability and performance of student with disabilities (Questions 3, 4, 5)

(b) Data-based decision-making (Questions 6, 7, 8, 9, 10, 11, 12, 13, 14)

Table 3 presents the mean score, standard deviation, and percentage of respondents who 'agree' or 'strongly agree' for each item or question.

Table 4

Item Responses: Mean, Standard Deviation, and Percent Agree and Strongly Agree

Items-Questions	*M (SD)*	Percent Agree or Strongly Agree
1. Core Instruction should be effective enough to result in 80% of students achieving grade level benchmarks in reading.	3.2 (.67)	83.6
2. The primary function of supplemental instruction is to ensure that students meet grade level benchmarks in reading.	3.1 (.55)	89.2
3. The majority of students with learning disabilities achieve grade level benchmarks in reading.	2.2 (.59)	29.1
4. The majority of students with behavioral problems (EBD) Achieve grade level benchmarks in reading.	2.4 (.62)	40.0
5. Students with high incidence disabilities (SLD, EBD) who are receiving special education services are capable of achieving grade level benchmarks in reading	2.8 (.71)	80.0
6. General education classroom teachers should implement more differentiated and flexible instructional practices to address the needs of a more diverse student body	3.3 (.55)	94.5
7. The use of additional interventions in the general education classroom would result in success for more students	3.2 (.65)	87.2

8. Prevention activities and early-intervention strategies in schools would result in few referrals to problem-solving teams and placement in special education.	3.3 (.67)	90.9
9.The "severity" of a student's academic problem is determined not by how far behind the student is in terms of his/her academic performance but by how quickly the student responds to intervention	2.8 (.55)	72.1
10.The "severity" of a student's behavioral problem is determined not by how far behind the student is in terms of his/her academic performance but by how quickly the student responds to intervention	2.7 (.59)	61.8
11. Using student-based data to determine intervention effectiveness is more accurate than using only "teacher judgment"	2.9 (.65)	78.1
12. Evaluating a student's response to intervention is a more effective way of determining what a student is capable of than using scores from "tests" (e.g. IQ/Achievement tests)	3.0 (.49)	89.1
13. Graphing student data makes it easier for one to make decisions about student performance and needed interventions.	3.1 (.53)	90.9
14. The goal of assessment is to generate and measure effectiveness of instruction/intervention.	3.1 (.44)	94.6

The first two questions on the scale determined respondents' beliefs about the function of core and instruction and supplemental instruction. As indicated in Table 4 the mean scores for these items were 3.2 and 3.1, respectively, or just above 'agree' on the scale. Further, 83.6% of respondents agreed or strongly agreed with the statement 'core instruction should be effective enough to result in 80% of the student achieving benchmarks in reading'. This finding was positive, given that most interviewees identified the need to strengthen core (Tier 1) instruction as one of their greatest implementation challenges.

For the subsequent three questions, incorporating beliefs regarding academic abilities and performance of students with disabilities, the mean scores ranged between 2.2 to 2.8 indicating somewhere between ‘agree’ and ‘disagree’. As shown on Table 4, 29.1% of respondents ‘agreed’ or ‘strongly agreed’ with the statement ‘the majority of students with learning disabilities achieve grade level benchmarks in reading’. This survey item received the lowest mean score (mean = 2.2) and highest percentage (70.9%) of respondents disagreeing or strongly disagreeing in the 14-item scale. However, responding to the statement ‘students with high-incidence disabilities (SLD, EBD) who are receiving special education services are capable of achieving grade-level benchmarks (i.e. general education standards) in reading’ 80% of respondents agreed or strongly agreed (mean = 2.8).

The subsequent nine items in the scale reveal teachers’ beliefs about data-based decision-making. For this domain the average domain score was 3.04 or slightly above ‘agree’ with an average percent value of 80.7% of respondents agreeing or strongly agreeing with the nine items. The two items with the highest percentage of respondents agreeing or strongly agreeing were that ‘general education classroom teachers should implement more differentiated and flexible instructional practices to address the needs of a more diverse student body’ (94.4%) and ‘the goal of assessment is to generate and measure effectiveness of instruction/intervention’ (94.6%).

Figures 1, 2, and 3 present the frequency of responses for each item or question grouped by the questions of items in each domain.

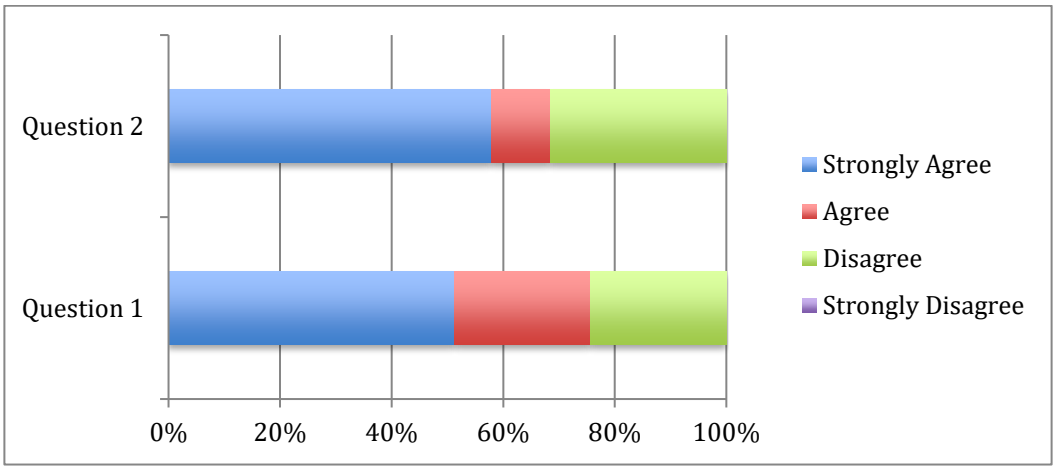

Figure 1. Frequency of responses for items in the domain: The function of core and supplemental instruction.

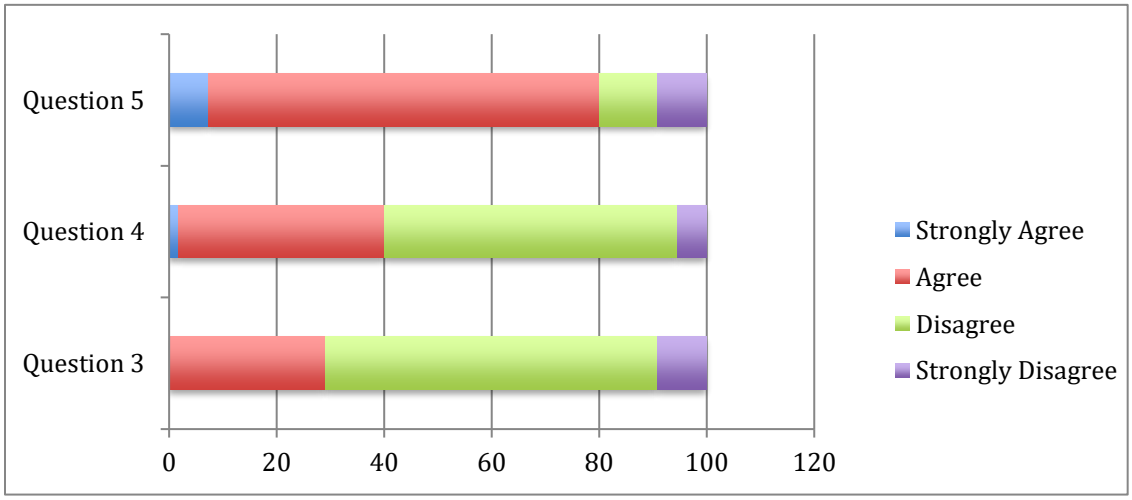

Figure 2. Frequency of responses for items in domain: The academic ability and performance of students with disabilities.

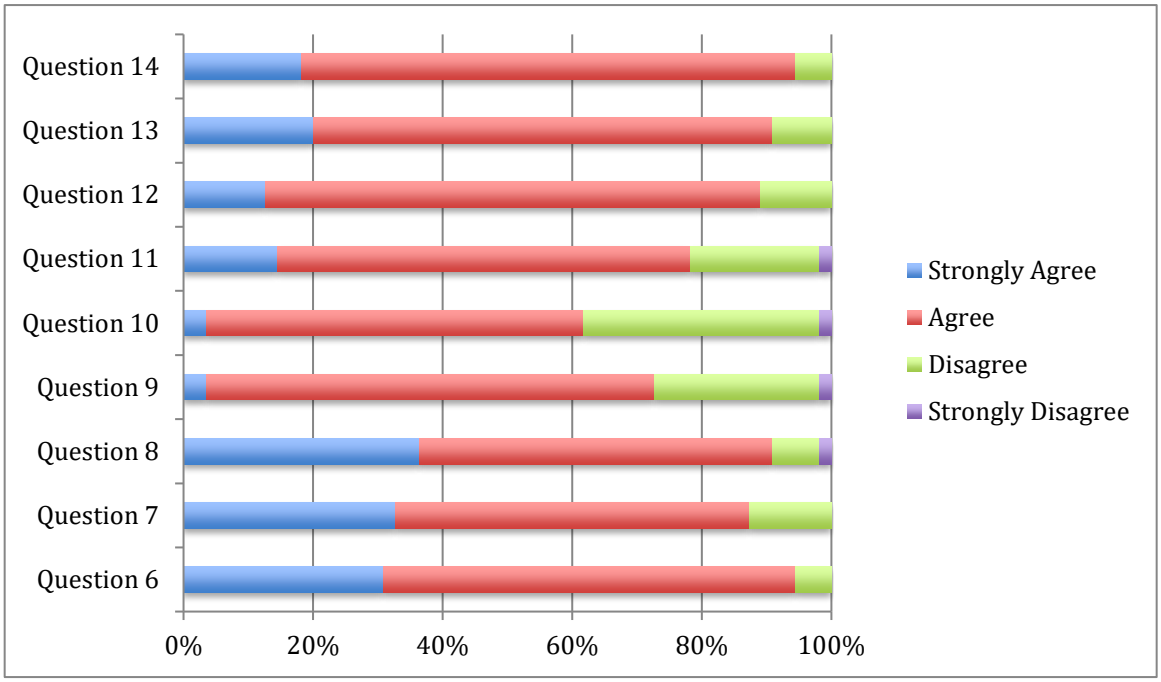

Figure 3. Frequency of responses for items in the domain: Data-based decision-making.

Synthesis

The study revealed that the school district World's Best Workforce and Read Well Local Literacy Plan were the primary policy and procedure documents employed by school district to facilitate and support implementation of the RTI/MTSS framework. These documents established the RTI/MTSS framework as a primary mechanism through which student outcomes could be improved. The Read Well Literacy Plan and the education district Problem Solving Manual provided a significant level of specificity on the screening, diagnostic, and progress-monitoring assessments used. The manual also detailed the data-driven process through which students are moved through the tiers of an MTSS.

This procedural specificity provided for school level practitioners revealed how the school district addressed the challenges of ensuring fidelity in delivery of evidence-based intervention, the integrity of the problem-solving process, and the application of valid and

reliable decision rules to determine response, or lack thereof, to intervention. Furthermore, school district and education district utilized formal and informal data systems to monitor implementation of the framework and make adjustments as needed.

The education district provided professional development to support effective implementation of the RTI/MTSS framework. This professional development took the form of one-day fall data workshops for building teams, ongoing support through four instructional services coordinator positions, and one-time offerings targeted to specific job types. School psychologists served in a non-traditional role in this setting. Their responsibilities included leading RTI/MTSS implementation in their assigned building, building staff competency, facilitating problem-solving meetings, and performing intervention fidelity checks.

School principals were extremely knowledgeable about the RTI/MTSS framework and developed building schedules with intervention time and meeting schedule to facilitate effective problem-solving and data-based decision making. School principals also demonstrated the use of adaptive leadership skills as they collaborated with their school psychologists, interventionists, one another, and special education cooperative staff to monitor implementation and made adjustments based on the unique needs of their own staff and students.

Teachers' responses to a survey measuring beliefs on response to intervention provided evidence for their beliefs in the domains of; the function of core (Tier 1) and supplemental (Tier 2 and Tier 3) instruction, the academic ability and performance of students with disabilities, and data-based decision making. Means scores and frequency of response types revealed the lowest scores in the area of beliefs on academic performance of students with disabilities. In the domain of data-based decision making the average mean score was 3.04, or slightly above agree. These

data revealed respondents held relatively favorable beliefs on the use of data for differentiation of instruction, the effectiveness of early intervention, and the use of data to determine response to intervention.

Summary

This chapter provided a summary and analysis of the qualitative and quantitative data gathered during the case study. Chapter V will compare finding in the study to the theoretical framework and the literature on RTI/MTSS implementation, draws conclusions from the analysis and discusses how study findings could be useful to school leaders seeking information on effective implementation of the framework. The chapter concludes with a reminder to the reader of the limitations of the study along with recommendations for practice and further research.

Chapter V: Summary, Conclusions, Discussion, Limitations and Recommendations

Introduction

The purpose of the study was to examine how district and school leaders in one school district in Minnesota leveraged policies, procedures, and implementation strategies to create conditions that resulted in implementation of an MTSS and replacement of the IQ-achievement discrepancy with an RTI measure for identifying a learning disability in a comprehensive special education evaluation. A convergent or parallel mixed-methods case study methodology was employed. The study supplemented the paucity of literature related to RTI/MTSS implementation in Minnesota.

Chapter V presents a summary of the study and examines the findings in the context of the theoretical framework and the literature on RTI/MTSS implementation. This is followed by conclusions based on analysis of the qualitative and quantitative data presented in Chapter IV, a discussion on the findings for each research question, limitations of the study, and recommendations for practice and for further research.

The case study findings revealed that the school district and education district leaders utilized many of the implementation strategies supported by the literature and theoretical framework. Evidence was found for how the school district attempted to address concerns identified in the literature regarding implementation of an RTI/MTSS framework. Education district leaders framed the vision or ideology for use of RTI and collaborated with the school district to support the implementation of an MTSS. The education district Problem Solving Manual and the school district Read Well Local Literacy Plan provided a significant level of procedural specificity. Procedural specificity was found by Desimone (2010) to be important for

implementation fidelity. Leaders also utilized formal and informal data systems to examine implementation and make adjustments.

Professional development was provided in the conceptual, procedural, and technical aspects of the framework. Technical and procedural competency was developed through initial training, ongoing coaching to build the capacity of building teams for effective problem-solving, and job specific training and support. School principals were knowledgeable about the framework and actively involved in day-to-day implementation. They utilized both technical leadership skills to develop the infrastructure and adaptive leadership skills to lead teams, develop consensus, and consider the unique needs of their own staff and students.

The study also revealed that school psychologists served in a 'non-traditional' capacity in this school district. They collaborated with building principals to meet the needs of students and were expected to actively lead implementation and assist in training to build staff competency in RTI/MTSS in their assigned buildings. School psychologists were also responsible for monitoring the fidelity of delivery of interventions.

Research questions.

The study was guided by the following research questions:

1. What policies, procedures, and implementation strategies were employed by school district and education district leaders to facilitate and support implementation of RTI/MTSS?
2. What type of professional development was provided to principals, teachers, and other select staff involved in implementation of RTI/MTSS.

3. What actions did school principals undertake to ensure effective implementation of RTI/MTSS (schedules, team meetings, staffing, resources) in each school?
4. What did teachers' report were their beliefs about RTI?

Discussion and Conclusions

Even prior to the enactment of IDEIA 2004, some researchers expressed skepticism about the RTI model and began to study some of their concerns and possible implementation challenges. The first of those concerns was the psychometric challenge of how to reliably determine 'response' in 'response to intervention'. The use of data to determine adequate response and decide whether to intensify or decrease intervention or move forward with a comprehensive special education evaluation remains one of the most challenging implementation components (Fuchs et al., 2004; Kratochwill et al., 2007; Reynolds & Shaywitz, 2009a). According to Fuchs et al. (2004), if this is not resolved the RTI process is likely to produce "similarly unreliable diagnoses" of SLD as the IQ-achievement discrepancy methodology (p. 225).

The second concern was with the possible continued exclusion of higher achieving students with reading disabilities and the over-identification as SLD of non-responders who do not have a learning disability but may be economically disadvantaged or English Language Learners and their lack of response could be attributed to other such factors such as emotional stress or lack of motivation not addressed in the intervention (NJCLD, 2007). Reynolds and Shaywitz (2009a) argued that because the benchmark for consideration of a learning disability in an MTSS system is global screening of students for low academic performance, bright students who may have a reading disability could still be excluded from being served in special education.

Reynolds and Shaywitz (2009b) also raised concerns about the lack of empirical evidence for "accuracy and equity of diagnosis, studies of gender and ethnic bias as a result of using RTI as a diagnostic method, and miscalculation rates of students as SLD when other disabilities are present" (p. 142).

The third concern with RTI is the most significant implementation challenge faced by school leaders. This involves ensuring fidelity in the delivery of evidence-based interventions, also known as treatment validity (Burns et al., 2013; Nelson et al., 2015; Reynolds & Shaywitz, 2009b). A fundamental assumption underlying the use of data in decision-making is the assurance that the data were obtained in an educational environment in which evidence-based practices occurred. Burns et al. (2013) identified lack of implementation integrity as a serious threat to the validity of RTI and discussed the challenges of scaling up small studies that demonstrate the effectiveness of RTI practices to complex 'real school' environments (p. 1). In summary, in order to draw reliable and valid conclusions regarding a student's responsiveness to an intervention program, district and school leaders need to ensure fidelity in delivery of intervention, the integrity of the problem solving process, and the application of valid and reliable decision rules to determine response or lack thereof (Fuchs et al., 2003; Fuchs et al., 2004; Kratochwill et al., 2007; Reynolds & Shaywitz, 2009a)

Research question one. Research question one asked: *What policies, procedures, and implementation strategies were employed by school district and special education cooperative leaders to facilitate and support implementation of RTI/MTSS?*

Three primary findings emerged from the document analysis and interviews related to how policies, procedures, and implementation strategies facilitated and supported

implementation of RTI/MTSS emerged from the document analysis and the interviews. The first of these was that policy and procedure documents established the RTI/MTSS framework as a strategy for accomplishing student achievement goal. These documents also articulated the collaboration between the education district and school district in establishing in implementing the RTI/MTSS framework, and provided a significant level of specificity in procedural guidelines for implementation. The second finding was the significant collaboration between the education district and the school district in implementation. Leaders of both entities appeared to use both formal and informal data systems to monitor implementation and make adjustments based on feedback. The third finding was the non-traditional role of school psychologists and collaboration between school principals and school psychologists.

The study revealed the school district's World's Best Workforce and Read Well Local Literacy Plan served as the primary "policy and procedure" documents for RTI/MTSS. These documents established the RTI/MTSS framework as a primary mechanism through which student achievement could be improved. This finding was consistent with the theoretical framework, which emphasized the importance of keeping a system aligned and focused on the needs of practitioners and outcomes for clients (Fixsen et al., 2009). Furthermore, Johnson and Chrispeels (2010) found that communication linkages between the school district and schools were important for implementing district directives, and Desimone (2002) found that school districts' policies established the necessary authority for sustaining change. These policy and procedure documents aligned the system and served as communication linkages between the school district, education district, and school buildings. It was clear that in this setting the RTI/MTSS framework was not an add-on to already existing structure or a formality to qualify

for special education. The framework was found to be deeply embedded in the system; arguably the framework *was* the system and one of the primary strategies through which student achievement outcomes were realized.

The two school district plans also identified the relationship between the school district and education district and established how they worked in tandem to implement the framework and achieve student outcomes. Both school district plans explicitly stated that the education district documents should be referenced for information and guidelines on implementation of RTI/MTSS. The collaboration between general education and special education on implementation of an RTI/MTSS framework aligns with findings from statewide implementation of RTI in Ohio, Iowa, and Illinois (Graden et al., 2007; Ikeda et al., 2007; Peterson et al., 2007).

The primary education district document that provided direction on the implementation of RTI/MTSS was the Problem Solving Manual. Along with the school district's Read Well Literacy Plan, the manual provided a significant level of detail on the ideological underpinnings of the RTI/MTSS framework, the rationale for the use of RTI, and a detailed description of the MTSS and how it should be implemented. The Read Well Literacy Plan included lists of intervention programs used at all tiers, details on the precise screening, diagnostic, and progress-monitoring assessment tools used at each level, and the data-driven process through which students are moved through the tiers of an MTSS. Desimone (2002) found that specificity in policy documents could help ensure implementation fidelity. She stated: "teachers reported more frustration and anxiety over reform models that required a large amount of local development" (p. 441).

In addition to the Problem Solving Manual, the education district also provided forms and checklists to guide each stage of a team's work during the process of moving a student through the MTSS and eventually recommending that a student be identified as learning disabled and eligible for special education services. One important example of this guidance was a form used to document the progress monitoring meetings. This form, or protocol, required that a team record both the fidelity of implementation of an intervention and the effectiveness of the intervention. If 80% of students receiving an intervention were making adequate progress, the intervention was deemed to be effective. If implementation fidelity was measured at less than 80% and 80% of students were not making adequate progress the team was expected to make qualitative or quantitative changes to the intervention.

The final stage of the process the documentation, compiled by a school team to which recommended a student be identified as learning disabled - based on lack of response to intervention - be submitted to a committee established by education district for final review and approval. The findings revealed how the school district and education district attempted to ensure fidelity in delivery of intervention, the integrity of the problem solving process, and the application of valid and reliable decision rules to determine response or lack thereof to an intervention. Each of these has been identified as a significant implementation challenge for schools (Fuchs et al., 2004; Kratochwill et al., 2007; Reynolds & Shaywitz, 2009b).

However, when Anderson and Seashore Louis (2012) examined the policies, procedures and strategy documents in school districts which had obtained unexpectedly high student achievement results, they found these documents tended to look similar and suggested, "differences in district success depends less on such strategies and policies than they do on the

skill and continuity of their *enactment* - and on organizational learning that leads to local expertise and sustainability of effective practices" (p. 186). It was important therefore, to examine the enactment of the documents that guided the RTI/MTSS implementation. The next two sections of this chapter will examine in more detail the role of the education district, the collaboration between school district and education district leaders, the use of formal and informal data systems to monitor implementation, and the position of school psychologists.

The education district managed special education services for the district and was governed by a member-district superintendent operating committee. This structural linkage between the education district and the school district served to "exert administrative control, complete critical organizational tasks, and enforce desired change" (Johnson & Chrispeels, 2002, p. 766). For example, the education district leaders facilitated the development of the annual assessment calendar and assessment tools to be used at all tiers of an MTSS and within all member districts. Input on the assessment calendar was sought from principals and members of the superintendent operating committee approved the final schedule. The approval ensured district level coordination of assessment processes. This was an important finding, given that the need for valid and reliable data with which to make decisions on a student's level of responsiveness to an intervention is a fundamental component of an RTI/MTSS framework (Fletcher & Vaughn, 2009). This coordination by the education district leadership also provided data for development of local norms with which grade level targets for literacy and mathematics were established. The local norms were then used to calculate student growth or progress–relative to peers–as a result of a specific intervention.

Interviews and document analysis revealed that the ideology that formed the historical basis for the current RTI/MTSS framework germinated in the special education cooperative even prior to IDEIA 2004. This ideology was two-fold. The first was the importance of pre-referral services and prevention. One school psychologist described her career path and why she wanted to work for this particular education district as follows:

> What brought me to [the education district] was their passion for MTSS and for really working on pre-referral interventions and trying to get kids the help they need before waiting for them to be identified as having a disability.

The second part of the ideology was a commitment to support member school districts in their goals to improve outcomes for all students with the knowledge that improving outcomes for all students will result in the best outcomes for those identified with a disability. This was evident in the following excerpt from the Problem-Solving Manual:

> We have come a long way from advocating for the separation of students with disabilities from those who are not classified as disabled to understanding that most students can derive benefit from receiving their instruction through general education efforts.

Interviews with school principals revealed that they supported this two-fold ideology or vision. Weiner (2009) suggested that successful implementation of any complex change is dependent on a group of people working effectively together and that this success is highly dependent on a sense of shared beliefs and collective efficacy (p. 2). The school district and education district leaders appeared to share the ideology and they leveraged the relational, communication, and resource linkages identified by Desimone (2000) to work through the challenges of building this complex system.

Fixsen et al., (2009) described the importance of using formal and informal data systems to monitor implementation status and using these data to continue to build staff competency even

when a program is considered to be in full implementation. School district staff interviewed mentioned that in the early years of RTI implementation there was a lack of understanding in the schools of the rationale for the use of RTI in the identification of a learning disability and the importance of utilizing research-based intervention programs for intervention. However, principals, special education administrators, school psychologists, and the instructional services coordinators provided examples of how they have monitored and evaluated the current status of implementation and worked strategically to continuously improve implementation. One example of this monitoring was an audit of implementation of the RTI/MTSS framework conducted by the education district a few years prior to the study. Another example provided was the recent addition of data facilitator positions at each grade level in each building. This was undertaken in response to feedback from school principals that there was a need to build the capacities of general education teachers to understand and utilize the data.

The third finding related to implementation of the RTI/MTSS framework was the leadership role of the school psychologist. School psychologists were employees of the education district and assisted in managing special education services for member school districts. Traditionally the school psychologist served in a consultative role and was primarily responsible for facets of the comprehensive special education evaluation and IQ testing. However, each of the school principals and school psychologists noted that in this education district they served in a 'non-traditional role'. This role was consistent with findings in the literature. For example, Eagle et al. (2015) stated: "effective and sustainable implementation of MTSS practices occur through the building of staff competencies and system capacity for school-wide reform (p. 163). These authors discussed the complementary role of school

psychologists and building principals in developing staff competency and systems capacity. The role of school psychologists as consultants in academic and behavioral interventions and experts in the problem-solving process was also recognized as part of statewide implementation of problem-solving models in Illinois and Iowa in the early 1990s. In these states this role change was seen as a departure from the traditional narrow assignment to student testing as part of a comprehensive evaluation (Ikeda et al., 2007; Peterson et al., 2007). This role modification was consistent with the more recent professional preparation of school psychologists which has included the use of data-based decision making, designing, implementing, and evaluating effective intervention, and consultation and collaboration (National Association of School Psychologists, 2010, p. 4).

Research question two. Research question two asked: *What type of professional development was provided to principals, teachers, and other select staff involved in implementation of RTI/MTSS?*

According to Fixsen et al. (2009) the development of staff competency through training and coaching is an essential driver or strategy for effective implementation. Through effective professional development, an organization builds staff capacity to implement a program and promotes "competency and confidence of those engaged in implementing a program so that high fidelity and improved population outcomes are more likely to occur" (Bertram et al., 2015, p. 482). Kratochwill (2007) claimed that because RTI is a systemic change and requires change in professional practice, "professional development is a centerpiece of concern" (p. 619). Researchers agree that professional development on RTI/MTSS for school staff needs to address many components. Teachers need opportunities to develop both the conceptual understanding

and the procedural and technical skills necessary for delivery of intervention and data-based decision making.

Findings revealed that education district staff members primarily provided formal professional development related to RTI/MTSS implementation. This professional development was provided through a variety of methodologies and contained initial training, coaching and follow-up, and job specific training. A few years prior to the study a comprehensive four-day 'problem solving' training session was provided annually. A review of the training materials indicated that the four-day training session included opportunities for attendees to learn about the conceptual, theoretical, and procedural components of an RTI/MTSS framework identified by Kratochwill et al. (2007) as important.

Fixsen et al. (2009) described the importance of both initial training and ongoing coaching for sustaining implementation. Subsequent to the four-day training session provided in the earlier years of RTI/MTSS implementation, professional development appeared to have been tailored to school building and individual staff and student needs. The education district staff provided an annual one-day data workshop each fall. Regular training on the RTI/MTSS framework and opportunity to network and collaborate was provided for personnel with common roles, such as secondary mathematics or literacy interventionists. Personnel responsible for technical tasks, such as administration and scoring of assessments, were provided opportunity to learn and enhance their skills. Finally, school principals could request additional support as needed.

In discussing the importance of professional development specific to RTI/MTSS, Burns et al. (2013) concluded, "generalization is at least a prerequisite for sustainability" (p. 81).

According to The Evidence-Based Work Group (2005), generalization "refers to the process by which an intervention becomes more commonly used and is implemented with students other than the original target student or in settings other than the original intervention setting" (p. 485). One vehicle for increasing generalization is to provide professional development that is continuous. In this setting the instructional services coordinators provided such professional development, or coaching, to support implementation.

Interviews revealed that the instructional service coordinators intentionally followed up training by attending problem-solving team meetings. For example, during the time of the study staff members had been recently training on the use of a new student data system. Although interviews revealed that this system was generally well accepted, there were typical early usage struggles. By intentionally planning to attend problem-solving meetings as staff began to use the data system, the instructional services coordinators were able to provide follow up coaching to alleviate frustration and increase the potential usage of the system for effective data-based decision making. Furthermore, the instructional service coordinators were responsible for developing and adjusting the forms used by the problem-solving teams and supporting the work of ensuring fidelity in the delivery of interventions and the integrity of the problem-solving process.

Research question three. Research question three asked: *What actions did school principals undertake to ensure effective implementation of RTI/MTSS (schedules, team meetings, staffing, resources) in each school?*

School principals in the school district understood the importance of their role in the implementation of an RTI/MTSS framework in their buildings. This statement of one principal

was representative of all principals: “You have to have a knowledgeable and engaged administrative team; if you don’t the RTI is going to fail.” The literature consistently revealed the importance of principal leadership for successful implementation of the RTI/MTSS framework. According to Shepherd and Salembier (2011), “principals play a critical role in building rationale for taking on the innovation and linking it to existing school improvement efforts” and ensuring that support structures, including ongoing professional development, are provided (p. 14). Principals in the study appeared to understand their work in the same way. They each described the importance of 1) logistical/managerial items such as building and meeting schedules, 2) supporting teachers by ensuring they have the professional development they need, 3) adjusting to meet the unique needs of their own staff at any given point in time, and 4) the importance of collaboration with their school psychologists.

Each of the principals responded that the most critical way they could impact RTI/MTSS implementation was to create a school schedule with blocks of time during which students in need of Tier 2 or Tier 3 academic or behavioral support could be provided with the intervention in addition to core (Tier 1) instruction. Fundamental to ensuring integrity in the delivery of interventions is the assignment of blocks of instructional time with support staff available for delivery of the intervention and ensuring students are appropriately scheduled into those support blocks. The challenging part of the process was ensuring Tier 2 and Tier 3 supports could be scheduled for any child who may need supplemental (Tier 2) or intensive support (Tier 3) in addition to core curriculum (Tier 1).

The second theme revealed in principal interview was the challenge of creating a meeting schedule for teams. An effective MTSS involves analysis of student data at all tiers. In an

RTI/MTSS framework general education teacher teams typically examine global screening data for all students three times a year. Sometimes this data analysis can be accomplished during professional learning communities (PLC) meetings. During this process, the effectiveness of core curriculum (Tier 1) is evaluated and students in need of intervention (Tier 2) intervention are identified. Students identified for Tier 2 support are typically served in a standard protocol intervention and their progress is monitored every six weeks (Fuchs et al., 2003).

When a student does not respond to a standard protocol Tier 2 intervention, a Tier 3 team–called a problem-solving team in this school district–engages in a more "systematic analysis of instructional variables designed to isolate target skills/sub-skill deficits and shape targeted intervention" (Jimerson et al, 2004, p. 4). Through this in-depth process, the team designs a highly customized and possibly individualized intervention for the student. Student progress in the intervention is monitored closely and, if the student does not respond, he or she may be referred for a comprehensive special education evaluation.

The data analysis and problem solving undertaken by teams at each tier of an RTI/ MTSS framework involves a significant amount of meeting time, training in effective problem-solving processes, and facilitation. Fixsen et al. (2009) discussed the importance of adjusting "work conditions to accommodate new functions needed to implement the program model effectively, efficiently, and with fidelity" (p. 485). According to May (2013) complex practices are "disposed to normalization… if it's elements, and their associated cognitive and behavioral ensembles can be made workable and integrated into everyday practice" (p. 5).

Simply creating a master meeting schedule to accomplish the work that needs to be done in an effective RTI/MTSS framework is challenging. Two principals described how they had

monitored and adjusted the team meetings times and membership to maximize efficiency and effectiveness many times over their years in leadership. Three of five principals also discussed how important it was that they attend as many of these meetings as possible even though they often did not need to contribute much and the school psychologists facilitated the meetings. Additionally, one principal mentioned volunteering for problem-solving team tasks–such as a student observation–that needed to be accomplished outside of the meeting time. This was undertaken to demonstrate leadership engagement in the problem-solving process and with recognition that her schedule was slightly more flexible than that of instructional staff. The instructional services coordinators also expressed the importance of principal visibility at these meetings.

In addition to the problem-solving teams, most principals also established an RTI/MTSS building leadership team. The leadership team provided principals with a vehicle to enhance communication with all teachers, receive feedback on RTI/MTSS processes, and engage teachers in procedural decision-making. In at least one building this committee was called an RTI/MTSS 'oversight committee'. In another building RTI/MTSS leadership functions were integrated into the work of the building improvement team. The RTI/MTSS leadership teams served as a mechanism to develop broad - building-wide - conceptual understanding and support for the framework and were an important part of the infrastructure

Fixsen et al. (2009) established the importance of both 'technical' and 'adaptive' leadership skills. Leaders utilize technical leadership skills in situations where there in general agreement on the solution to a challenge and more traditional management strategies can be used. Leaders utilized adaptive skills when addressing complex situations that require skills in

collaborative problem solving, group facilitation, and consensus building. Although the RTI/MTSS framework had been in place in the school district for many years there did not appear to be any less need for adaptive leadership skills. Each of the principals described scenarios in which he or she gathered informal data and considered the unique needs of his or her own staff and students when making decisions on next steps for implementation. For example, one principal described the importance of considering the unique needs of each building when deciding on a timeline for training in the new students data system and how this timeline was not necessarily the same in each building.

Wahlstrom (2012) also described two complementary, but distinctly different leadership skills. She categorized these as instructional ethos and instructional actions (p. 73). Instructional ethos involves ensuring the development of a professional and collaborative culture with a vision of high expectations. One principal in the study provided an example of instructional ethos when describing efforts to build a professional and collaborative culture. This principal surveyed the school faculty to get feedback on the schedule and then worked to establish consensus for the proposed changes. Instructional actions refer to how the vision is accomplished. Another principal described the process and challenges of working with teachers on effective instructional strategies to enhance and improve Tier 1 instruction in addition to ensuring the use of research-based interventions in Tier 2 and Tier 3. According to Wahlstrom (2012), teachers in higher-performing schools rate school principals higher on both instructional ethos and instructional actions than those in lower performing schools (p. 79).

While the importance of principal leadership cannot be underestimated, it was also clear the principals in the study did not believe they could accomplish this task alone. Each of the

principals referenced their collaboration with the school psychologist assigned to their building and stated how much they needed and valued this person's role in RTI/MTSS implementation. One principal stated: "… we've got a really strong school psychologist who's leading that process, she's introduced several efficiencies to our system which help the meetings flow more smoothly compared to what we used to do…" In addition, principals also credited the education district with the support provided. One stated, "…we're fortunate enough to belong to [education district]". These findings are in accordance with the Bean and Lillenstein (2012) study conclusion that school principals must assume the lead role and establish the conditions for successful implementation of an RTI/MTSS framework but they cannot do this alone. It is essential that school principals build a culture of shared leadership in which other key staff such as school psychologists and reading specialists can help building staff competency and support teams with their unique skill set and knowledge base.

Finally, elementary principals in this school district reflected on the importance of working together and with the school district, particularly in regards to alignment of curriculum in Tier 1 and the development of interventions. In high performing districts, Leithworth et al. (2012) found a higher correlation between district conditions such as a focus on quality and achievement, use of data, targeted improvement, culture, teamwork and professional development and principal collective efficacy (.70) than principal self-efficacy (.39) (p. 112). The Leithworth study concluded that principal collective efficacy is more important than individual efficacy and school districts create the conditions in which this is fostered.

One of the challenges identified by school principals was the lack of additional staffing resources to provide Tier 2 and Tier 3 intervention and lack of a clear, consistent, equitable, and

sustainable method for obtaining additional resources. Title I funding was available for some buildings and others relied on the Alternative Delivery of Specialized Instructional Services (ADSIS) funding source. ADSIS funding is available to school districts in Minnesota through an application and reporting process. This funding source was established to provide academic and/or behavior intervention to students to succeed in the general education environment who may, without these services, be identified for special education. The application and reporting for this program is extensive and was completed collaboratively by the building principals and the special education cooperative. This finding echoes a theme in the literature. Fletcher and Vaughn (2009) discussed the challenges of coordinating service delivery in an MTSS where services are "funded by separate entitlement programs, especially Title I and IDEIA that tend to have specific eligibility criteria and historically have made it difficult to blend resources to support schoolwide intervention models" (p. 33).

Research question four. Research question four asked: *What did teachers' report were their beliefs about RTI?*

This question was answered through analysis of teacher responses to the Florida Response to Intervention/Problem Solving Project *Beliefs on RtI Scale.* In order to strengthen internal validity, data for the study was gathered using a variety of methodologies and from a variety of sources. School district and education district documents related to RTI/MTSS were analyzed; interviews were conducted with school district and education district leaders, school principals, school psychologists, instructional services coordinators, and interventionists. Finally, in order to gather input from this key constituent group, teachers in all four schools were invited to participate in a survey.

The *Beliefs on RtI Scale* is a self-report tool developed by the Florida PS/RTI Project. According to the scale administration manual, research suggests "what educators belief about the big ideas and fundamental practices of PS/RTI should be related to implementation of the model" (p. 42). The intended use of the scale is to "identify commonly held beliefs among educators that will likely help facilitate or hinder implementation efforts" (p. 42). The literature revealed the importance of developing the collaborative culture necessary for successful implementation of an RTI/MTSS framework (Burns et al., 2013; Donnell & Gettinger, 2015; Dulaney et al., 2013; Palenchar & Boyer, 2008; Shepherd & Salembrier, 2011).

This scale was selected as a tool to examine teachers' perceptions in the study due to findings in a 2015 study conducted by Donnell and Gettinger. When Donnell and Gettinger (2015) examined the influence of four variables–self-efficacy, years of teaching experience, beliefs and professional development–on teachers' self-rating of their acceptability of RTI they concluded, "after controlling for all other explanatory variable, teachers' whose beliefs were aligned with RTI held a positive attitude towards the reform initiative" (p. 55).

For the purpose of the study, 165 teachers in four schools were invited to respond. The 55 complete responses represented a response rate of 33%. The first three questions asked respondents to identify their teaching assignment, number of years' experience teaching, and the school in which they worked. Following these questions, respondents rated their agreement or disagreement with the scale's 14 items or questions on a 4-point Likert scale with responses ranging from strongly agree (1) to strongly disagree (4). The scale contained domain items specific to measuring teachers' beliefs in (a) the function of core and supplemental instruction,

(b) the academic abilities and performance of students with disabilities, and (c) data-based decision-making.

The average mean score for the two items in the domain related to the function of core and supplemental instruction was 3.1 with 86.4% of respondents agreeing or strongly agreeing to the questions presented. The results indicated that 86.6% of respondents agreed with the statement - core instruction should be effective enough to result in 80% of students achieving grade level benchmarks in reading. This is important given that many of the interviewees identified a need to strengthen core (Tier 1) instruction in the RTI/MTSS framework as a challenge and the literature findings regarding the importance of Tier 1 instruction (Baker et al., 2010; Fuchs et al. 2012).

The second domain in the scale posed three statements that examined teachers' beliefs on the academic abilities and achievement of students with disabilities' and contained responses with the lowest scores. An average mean of 2.5 was indicted and an average of 49.7% of respondents agreeing or strongly agreeing with the three items presented. However, when answering questions, in the third domain, related to data-based decision-making, an average of 84.3% of respondents agreed or strongly agreed with the statements presented. This may indicate that professional developed and capacity building efforts in the area of assessment and data undertaken by school district and school leaders has yield a positive impact on teachers' beliefs.

In general, the mean score of all except two of the 14 items presented in the scale were at least at the 'agree' level. Given this, the beliefs about RTI of teacher respondents in the school district appear to be relatively strong. Using Donnell and Gettinger (2015) finding that "teachers' whose beliefs were aligned with RTI held a positive attitude towards the reform initiative" (p.

55) it could be concluded there is a reasonable likelihood that teachers in the school district hold relatively positive attitudes toward RTI/MTSS implementation. The scale can be administered once to establish a baseline and re-administered annually to assess the impact of professional development and other implementation efforts.

Leaders in implementation of the Iowa Problem Solving Approach recognized the importance of establishing "a belief system that would endure as practices changed" (Ikeda et al., 2007, p. 257). It was evident that school district and education district leaders used formal and informal data inputs (such as the audit) to examine the effectiveness of a specific tool (such as the student data system) and that RTI/MTSS practices had changed over time. Torgesen (1986) described the general consensus among researchers that advances in cognitive neuroscience will continue to deepen scientific and practitioner knowledge about how to identify and teach students with a learning disability. Given this, it is important to remember that the primary purpose of an RTI/MTSS framework is to improve outcomes for all students and the use of data obtained as part of the process for an SLD evaluation is a secondary outcome. The literature findings would suggest therefore, that continuing to build the conceptual knowledge and procedural understanding of all staff members in the RTII/MTSS framework is critical.

Limitations

The small sample size and the participating school district's enrollment, demographics, staffing, grade configuration, and the school leaders who agreed to participate in the study, may limit the generalizability of the study's findings to the broader community of Minnesota schools. The teacher survey response rate of 33% limits the interpretation of these data on teachers' beliefs about response to intervention. In addition, the school district's membership of a

particular education district and the linkages between the two related to special education and RTI/MTSS framework implementation may also limit the generalizability of findings to school districts structured differently in relation to provision of special education services.

Recommendations for Practice

At the time of the study, thirteen years had passed since the passage of IDEIA 2004. Since then, researchers and school practitioners have developed general agreement on the essential components of an RTI/MTSS framework. The challenge for school leaders is to address concerns regarding effective implementation of the RTI/MTSS framework and ensure that student data obtained through a multi-tiered system of support are reliable and valid indicators of a learning disability. In order to draw reliable and valid conclusions regarding a student's responsiveness to an intervention program, district and school leaders need to address the concern identified in the literature and find methods for ensuring fidelity in delivery of intervention, the integrity of the problem solving process, and the application of valid and reliable decision rules (Burns et al., 2013; Nelson et al., 2015; Fuchs et al, 2003; Fuchs et al, 2004; Kratochwill et al. 2007; Reynolds & Shaywitz, 2009a)

The following are recommendations for practice based on the findings of the study:

1. It is recommended that an RTI/MTSS framework should be established at the school district level. School district functions of resource allocation, professional development, curriculum review, and assessment may be coordinated and leveraged to strategically build an aligned, tiered system of instruction and intervention to meet the needs of all students as they progress in a PreK-12 system. According to Johnson and Chrispeels (2010), "many policy makers and reform organizations have renewed

confidence in the district office as a change agent in bringing about coherence and in promoting equity in achievement across all schools in a system" (p. 739). There are two primary reasons for establishing a district coordinated system:

a. While one school in a district may successfully implement a building level RTI/MTSS framework, eventually a student from that school may transition to another school and likely join students who attended a different school from the first. In order for a receiving school to equitably consider students' needs, that school's staff must have understanding of how arriving students were served in prior years and how the arriving students responded to interventions in their previous schools. If this is not clear and the arriving students are required to begin diagnosis again in each new building, the 'wait-to-fail' problem of the discrepancy model will simply be replicated.

b. This recommendation aligns with the findings of the Multi-Tiered System of Early Intervention and Instructional Support (MTSS) Work Group (2015) which affirmed the importance of creating a district model that will "withstand changes in leadership and personnel" (p. 2). This could also address Wilder Research (2016) finding that high rates of school leadership turnover in Minnesota negatively impacts implementation (p. 7).

2. In order to ensure fidelity in delivery of intervention, the integrity of the problem solving process, and the application of valid and reliable decision rules, it is recommended that school practitioners should be provided with specific procedural

guidelines on the various components of the school district RTI/MTSS framework. This can be achieved as follows:

   a. Policy and procedure documents should provide details on timelines and measures to be used for screening and progress monitoring assessments, clear guidelines for team decision-making, and expectations for the use of research-based programs.
   b. Professional development should be provided to all staff members working with the procedural and technical aspects of implementing evidence-based interventions. Additionally, training in team problem-solving processes and the use of valid and reliable data for decision-making is essential. This professional development should be available frequently and followed-up with coaching, on-site support, and fidelity checks to monitor effectiveness.

3. The implementation of an RTI/MTSS framework designed to meet the needs of all students requires collaboration between general education and special education leaders and teachers. The literature revealed the challenges of implementing an efficient and effective MTSS programming when services are funded by separate entitlement programs, such as IDEIA and Title I, each with unique accountability requirements (Fletcher & Vaughn, 2009; Zumeta, 2015). However, the study revealed that substantial collaboration between special education and general education leadership could help bridge these technical obstacles and ensure the needs of all students are met.
4. In order to build a collaborative school culture and generate the necessary acceptance by staff members for implementation success, all school personnel should be

provided opportunities to learn about the broad conceptual and ideological aspects of the RTI/MTSS framework. While doing this, it is important to understand that the RTI/MTSS framework does not simply serve simply as a mechanism to determine if a student is learning disabled (Fuchs et al, 2010). The primary goal of RTI is the prevention and remediation of academic and behavioral difficulties through effective classroom instruction and increasingly intense interventions. Understanding that an RTI/MTSS framework is a way to organize the educational system and align resources to improve outcomes for all students could help engage all teachers. A secondary goal of the RTI/MTSS framework is the provision of useful data that contributes to referral and decision-making about students with learning disabilities.

5. When establishing an RTI/MTSS framework, school district and school leaders would be well advised to use a research-based implementation framework (Fixsen et al., 2009; Reeves, 2007). There is abundant evidence in the literature, and confirmed in the study, that successful implementation occurs over many years. Specific to implementation of an RTI/MTSS framework, Jimerson et al. (2007) stated, "... the process typically takes years, or even decades, and is better characterized as an ongoing process rather than an event that is completed on a given date" (p. 7). In fact, the authors suggested that, given the magnitude of the RTI/MTSS model, leaders might be better advised to "begin implementing RTI procedures on a small scale with high quality while building local capacity to implementation on a wider scale" (p. 7). The literature revealed the importance of considering site-readiness before beginning and planning carefully for training and coaching. The study also revealed the

importance of using formal and informal data systems to monitor implementation and adjusting the system as needed over many years.

6. School principals need to be knowledgeable about the RTI/MTSS framework, committed to its implementation, supported by the school district, and willing to invest the time and energy required into the day-to-day implementation. However, school principals also need to realize they cannot do this work alone. It is important to build capacity for shared leadership in their school buildings and collaborate with professionals, such as reading specialists and school psychologists, who can also lead, support, and coach individual teachers and school teams.
7. District and school leaders need to identify strategies for leveraging expertise of school psychologists in the process of establishing an RTI/MTSS framework. The need for personnel committed to the analysis of progress monitoring data, skilled in the facilitation of problem solving meetings, and attentive to Tier 3 programming requires the focus of specifically trained professionals. Most teachers and administrators were not educationally prepared in either undergraduate or graduate level coursework to perform this role or these tasks. The professional standards for school psychologists indicate they are so prepared. Given the time-consuming and complex nature of these tasks and the high stakes decision-making implications for students, the leadership and involvement of school psychologists in staffing for implementation of an RTI/MTSS framework appears essential. The literature revealed that school psychologists serve in such a capacity in other states that have

implemented successful RTI/MTSS frameworks. The study confirms that schools in Minnesota would be wise adopt this as a practice.

Recommendations for Further Research

Further studies related to the implementation of an RTI/MTSS framework could explore the following:

1. It is recommended a study by undertaken to examine how school districts in Minnesota with established RTI/MTSS frameworks ensure fidelity in their delivery of interventions, the integrity of their problem-solving process, and their use of valid and reliable decision rules.
2. It is recommended a study be undertaken to determine how frequently school psychologists are serving in "non-traditional" roles as described by interview participants in the study. Possibly, the role of school psychologists in many school districts and education districts has already expanded beyond what was considered "traditional".
3. It is recommended that a study be undertaken to ascertain how school districts in Minnesota fund the personnel needed for intensive Tier 2 and Tier 3 services.

Summary

The Minnesota Department of Education has collaborated with the Wilder Foundation to survey school districts on MTSS and English Language Arts standards implementation every year since 2013. From 2014 to 2016, the percentage of schools that reported full implementation of an MTSS increased by only two percent (Wilder Research, 2016). The five greatest challenges reported by schools in both 2015 and 2016 were: (a) staffing capacity, (b) difficulty in

scheduling, (c) need for professional development, (d) funding, and (c) lack of support or buy-in from staff (p. 12). From a statewide implementation perspective, the report concluded that two percent of schools reaching full implementation annually was not sufficient:

> If a law were to be passed requiring implementation of MTSS by 2020 we would have to increase the growth rate to 20 percent or add 156 schools to full and sustaining implementation levels. The state does not currently have the infrastructure to leverage such growth. (p. 10)

Minnesota Statute 125A.56, entitled *Alternative Instruction Required before Assessment Referral*, provides guidance to school districts on the implementation of early intervention services. In 2014 a Multi-tiered System of Early Intervention and Instructional Supports (MTSS) Work Group was convened to review current practice under the statute and make recommendations to the Minnesota Department of Education. Recommendations from this workgroup aligned with literature and study findings and included:

1. School districts should establish an E-12 MTSS model and implementation plan aligned with the Read Well by Third Grade and World's Best Workforce goals and plan.
2. The Minnesota Department of Education should provide information to school districts on funding sources to support MTSS and replicate and share proven MTSS models.
3. School districts and schools need to establish accountability systems to ensure implementation fidelity.
4. Professional development plans should support MTSS implementation and leadership training.

5. Parents should be informed on how their child is served in an MTSS and provided with opportunity to be engaged (The Multi-Tiered System of Early Intervention and Instructional Supports Work Group Report, p. 3)

However, information on the specific policies, procedures, and implementation strategies enacted by districts and schools to make progress towards full implementation of an MTSS/RTI framework in the context of IDEIA 2004 and Minnesota special education and early intervening statutes was not readily available.

The study examined implementation of an RTI/MTSS framework in one school district in Minnesota in November to December 2017. A parallel or convergent mixed-methods case study methodology was employed to examine how the school district leveraged policies, procedures and implementation strategies to create the conditions that resulted in implementing an MTSS and replaced the IQ-achievement discrepancy with an RTI measure for identification of a learning disability in a comprehensive special education evaluation. The study supplemented the paucity of literature related to MTSS/RTI implementation in Minnesota and provided information from which other school leaders may benefit.

The study findings align with the broad themes regarding effective implementation of the framework found in the literature and recommendations from the Multi-Tiered System of Early Intervention and Instructional Support Work Group (2015). Some additional and more specific recommendations are provided based on the study findings. School principals need to be knowledgeable and highly engaged in the day-to-day implementation of RTI/MTSS but cannot do this work in isolation. Clear and specific implementation procedures should be developed at the systems level and provided to school practitioners.

Furthermore, professional development should be provided to support these procedural and technical requirements in addition to addressing the conceptual and ideological facets of an RTI/MTSS framework. The professional development model would be advised to include initial training and ongoing support and coaching. Inevitably the walls between special education and general education will become more blurred. In the interest of serving children well, we need to find ways to reach across separate funding sources to serve each student in a manner that best meets her or his needs. Finally, the study revealed that school psychologists are uniquely positioned and trained to collaborate with building principals and provide leadership to meet the most significant implementation challenges faced by school leaders – ensuring fidelity in the delivery of evidence-based intervention, the integrity of the problem-solving process and the application of valid and reliable decision rules.

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Appendix A: Letter of Support and Consent to Participate

Leadership Implications for Implementation of Response to Intervention in a Multi-Tiered System of Support

Letter of Support and Consent to Participate

The [redacted] and [redacted] agree to participate in a research study on the implementation of Response to Intervention (RTI) and a Multi-Tiered System of Support (MTSS) in the school district and education district. This study will take place during the months of November and December 2017.

We understand the purpose of this research is to examine implementation of RTI or a MTSS in one district in Minnesota. The study will reveal information on related policies, procedures, and implementation strategies used by school district, education district, and school leaders from which other districts may benefit. Data for this study will be gathered through: 1) analysis of school district and education district documents, 2) individual interviews with school district, education district, principals, and select staff members, and 3) a teacher survey measuring 'Belief on Response to Intervention'.

Individual and group interview questions will relate to participants knowledge of the implementation of RTI and MTSS in the district. Interviews are expected to take from 45 – 60 minutes. Data collected as part of the individual will remain strictly confidential. There will be no personal or professional risks to participants in these interviews. Participant names will not be disclosed. Direct quotes will only be used with permission. During the interview participants may refuse to answer any questions. After completion of individual interviews participants will receive a transcribed interviews and, at this point, may expand responses or note omissions.

The 14-question teacher survey will be anonymous. It is expected that the survey will take 10 – 15 minutes to complete. Data will be presented and reported in aggregate form with no more than two demographics presented together. Minimal risks and discomforts to participants are anticipated.

This letter serves as support for this study and consent for district and special education cooperative participation.

_____
School District Representative

_____
Education District Representative

Primary Investigator, Jean Duffy, can be contacted at: jduffy@stcloudstate.edu.
Faculty Advisor, Dr. K. Worner, can be contacted at ktworner@stcloudstate.edu

Appendix B: Consent to Participate–Interview

Leadership Implications for Implementation of Response to Intervention (RTI) in a Multi-Tiered System of Support (MTSS)

You are invited to participate in a research study about the implementation of Response to Intervention (RTI) and a Multi-Tiered System of Support (MTSS) in your school district. This study will take place in November and December 2017.

This purpose of this research is to examine implementation of RTI/MTSS in one district in Minnesota. This study will reveal information on related policies, procedures, and implementation strategies used by district and school leaders, specialists, and teachers from which other districts may benefit.

If you agree to be part of the research study, you will be asked to answer interview questions related to your knowledge of the implementation of Response to Intervention and a Multi-Tiered System of Support in your district or school. Interviews are expected to take from 30 – 45 minutes.

Data collected as part of the individual interviews will remain strictly confidential. Participant names will not be disclosed. There will be no personal or professional risks to interviews participants. Direct quotes will only be used with permission. During the interview you may refuse to answer any questions. After completion of the interview participants will receive a recorded copy and at this point, may expand responses or note omissions.

Participation in this study is completely voluntary. Your decision on whether or not to participate will not affect your current or future relations with St. Cloud State University, or the researcher. If you decide to participate, you are free to withdraw at any time without penalty.

If you have questions about this research study, you may contact the primary investigator, Jean Duffy at jduffy@stcloudstate.edu and/or the faculty advisor, Dr. K. Worner at ktworner@stcloudstate.edu.

Results of the study can be requested from the primary investigator.

Your signature below indicates that you are at least 18 years of age, you have read the information provided above, and you have consented to participate.

_____	_____
Name	Position
_____	_____
Signature	Date

Appendix C: Consent to Participate–Online Survey

Leadership Implications for Implementation of Response to Intervention in a Multi-Tiered System of Support

You are invited to participate in a research study about the implementation of Response to Intervention (RTI) and a Multi-Tiered System of Support (MTSS) in your school district. This study will take place in November 2017.

This purpose of this research is to examine implementation of RTI or an MTSS in one district in Minnesota. This study will reveal information on related policies, procedures, and implementation strategies used by district and school leaders, specialists, and teachers from which other districts may benefit.

If you agree to be part of the research study, you will also be asked to complete a 'Beliefs on Response to Intervention' survey. The survey is expected to take 10 – 15 minutes to complete and will be anonymous. Data will be presented and reported in aggregate form with no more than two demographics presented together. Minimal risks and discomforts to participants are anticipated.

Participating in this study is completely voluntary. Your decision whether or not to participate will not affect your current or future relations with St. Cloud State University, or the researcher. If you decide to participate, you are free to withdraw at any time without penalty.

If you have questions about this research study, you may contact the primary investigator, Jean Duffy at jduffy@stcloudstate.edu and/or the faculty advisor, Dr. K. Worner at ktworner@stcloudstate.edu.

Results of the study can be requested from the primary investigator.

Your completion of the survey indicates that you are at least 18 years of age and your consent to participation in the study.

Appendix D: Matrices of Research Questions and Interview Questions

Building Principals

Research Questions	Interview Questions	Data Source
2. What type of professional development was provided to principals, teachers, and other staff involved in implementation of RTI/MTSS?	1. What type of professional development is provided to principals, teachers, and other staff involved in implementation of RTI/MTSS?	**School District Employee** Building Principals
3. What actions did school principals take to ensure effective implementation of RTI/MTSS (schedules, team meetings, staffing, resources) in each school?	1. Please describe your role in the implementation of RTI/MTSS in this building? 2. How do you obtain the resources - both staffing and technical - to support implementation of RTI/MTSS in your building? (Principal only) 3. Describe how the team structure works in this building? 4. How do you build the schedule to provide time for intervention in addition to core instruction? (Principal only) 5. a. What strategies have you used to develop a culture of shared responsibility for all students? b. Please describe the building process for reviewing student data. 6. Please address the decision making process in relation to determining student placement in intervention, level of responsiveness to intervention, and identification of a learning disability? 7. What would you identify as the greatest challenges in the implementation of RTI/MTSS? 8. What else would you like to share about RTI/MTSS implementation in this building or the district?	**School District Employee** Building Principal Assistant Principal

Instructional Service Coordinators, School Psychologists and Academic Interventionists

Research Questions	Interview Questions	Data Source
2. What type of professional development was provided to principals, teachers, and other staff involved in implementation of RTI/MTSS?	1. What type of professional development is provided to principals, teachers, and other staff involved in implementation of RTI/MTSS?	**School District Employee** Academic Interventionists **Education District Employee** Instructional Services Coordinators School Psychologists
What actions did school principals take to ensure effective implementation of RTI/MTSS (schedules, team meetings, staffing, resources) in each school?	1. Please describe your role in the implementation of RTI/MTSS in this building? 2. Describe how the team structure works in this building? 3. Please describe the building process for reviewing student data. 4. Please address the decision making process in relation to determining student placement in intervention, level of responsiveness to intervention, and identification of a learning disability? 5. What would you identify as the greatest challenges in the implementation of RTI/MTSS? 6. What else would you like to share about RTI/MTSS implementation in this building or the district?	**School District Employee** Academic Interventionists **Education District Employee** School Psychologist Instructional Services Coordinators

Special Education Administrators

Research Questions	Interview Questions	Data Source
1.What policies, procedures, and implementation strategies were employed by school district and education district leaders to facilitate and support implementation of RTI/MTSS?	1. Please describe the process of establishing an MTSS framework and use of RTI in the district. 2. What policies, protocols, manuals, or guidelines related to implementation of RTI/MTSS are in place? 3. How do you ensure each school has the resources - both human and technical - to effectively implement an MTSS? 4. What accountability systems exist to ensure implementation fidelity of a district-wide MTSS and use of RTI? 5. What would you identify as the greatest challenges of implementing RTI/MTSS? 6. What else would you like to share about RTI/MTSS implementation in the district?	**Education District Employee** Special Education Administrator
2. What type of professional development was provided to principals, teachers, and other staff involved in implementation of RTI/MTSS?	1. What type of professional development is provided to principals, teachers, and other staff involved in implementation of RTI/MTSS?	**Education District Employee** Special Education Administrator

Appendix E: Interview Protocol

Script prior to interview:

I'd like to begin by thanking you for being willing to participate in the interview aspect of the RTI/MTSS implementation study. Your district was invited to participate because, by reputation, it is an example of a district that is in the advanced stages of implementation of RTI/MTSS. The study seeks to identify and describe some of the strategies that have been and continue to be used by the school district and education district staff to support implementation. A description of implementation in your district from which other districts may benefit will be developed.

To this end, interviews are being conducted with district and education district staff. In addition, documents related to implementation have been examined and a teacher survey regarding implementation of RTI/MTSS will be used. The questions in our interview today will help identify the successful strategies as well as the challenges of RTI/MTSS implementation.

Consent forms will be emailed to participants three days prior to the interview. Participants will be asked to read and bring a signed copy. If this has not done participants will be presented with a copy to sign at this time.

You have read and signed the consent form. I'd like to reiterate that the information collected will remain confidential. Direct quotes will only be used with your permission. I will use a digital recorder so I can transcribe and compile information from all sources into the case study description. You will be provided with a recorded copy of your interview within a few days and, at that time, can expand responses or note omissions.

Before we begin the interview, do you have any questions?

If questions arise at any other point please feel free to ask them. I will be happy to answer.

At this time the tape recorder will be switched on and interview will begin using questions from the matrix.

At conclusion of the interview:

Thank you again for your participation. I will email you my contact information, please feel free to ask any follow up questions. In a few days I will send you a recording of this interview and you will be able to expand on any responses you provided or add anything that may have been omitted. I will be presenting my findings to the school district and education district administrators in March. If you would like to receive a copy of this please let me know.

Appendix F: Codes Used for Document Analysis and Interview Analysis

Research Question 1	Research Question 2	Research Question 3
Organizational Drivers: Decision Support Data Systems Facilitative Administration Systems Level Intervention District-to-School Linkages: Communication Ideological Relational Resources Structural Policy Attributes: Authoritative Consistent Powerful Specific Stable Funding Sources: ADSIS General Fund or Other Title I Legal or Statute Student Outcome	Competency: Selection Training Coaching Professional Development	Leadership – Principal Adaptive Technical School Schedule Teacher Collaboration Teams Meeting Schedules Parent Involvement

Codes used for more than one research question	Emergent codes added during the coding process
Best Practices Curriculum/Specific Program Data-based Decision Making Decision Rules Fidelity of: Decision-Making Rules Intervention Delivery Movement Between Tiers Multi-Tiered System of Support Tier 1 Tier 2 Tier 3 Problem-Solving Process Response to Intervention Staff: Special Education Teacher General Education Teacher Instructional Services Coordinator Reading Specialist/Interventionist Social Worker School Psychologist Specific Learning Disability Standard Treatment Protocol	Themes: Co-teaching Continuous Improvement Meeting preparation Principal-school psychologist collaboration Challenges/Barriers: Building Culture Communication Coordination/Logistics High needs of students Limiting Initiatives Outcomes Principal leadership Increasing Tier 1 effectiveness

Appendix G: Beliefs on Response to Intervention Scale

Beliefs on RtI Scale

Leadership Implications for Implementation of Response to Intervention in a Multi-Tiered

System of Support Consent to Participate

You are invited to participate in a research study about the implementation of Response to Intervention (RTI) and a Multi-Tiered System of Support (MTSS) in your school district. This study will take place in November 2017.

This purpose of this research is to examine implementation of RTI or an MTSS in one district in Minnesota. This study will reveal information on related policies, procedures, and implementation strategies used by district and school leaders, specialists, and teachers from which other districts may benefit.

As part of this research study, you are being asked to complete a 'Beliefs on Response to Intervention' survey. The survey is expected to take 10 – 15 minutes to complete and will be anonymous. Data will be presented and reported in aggregate form with no more than two demographics presented together. Minimal risks and discomforts to participants are anticipated.

Participating in this study is completely voluntary. Your decision whether or not to participate will not affect your current or future relations with St. Cloud State University, or the researcher. If you decide to participate, you are free to withdraw at any time without penalty.

If you have questions about this research study, you may contact the primary investigator, Jean Duffy at jduffy@stcloudstate.edu and/or the faculty advisor, Dr. K. Worner at ktworner@stcloudstate.edu. Results of the study can be requested from the primary investigator.

*** Acceptance to Participate**

By selecting "Yes", you indicate that you are at least 18 years of age, you have read the informationprovided above, and you have consented to participate.

◯ Yes ◯ No

Beliefs on RtI Scale

Directions: For Items 1-4 below, please select the response option that best represents your answer.

* 1. Job Description

- ◯ Teacher - General Education
- ◯ Teacher - Special Education
- ◯ Other (please specify)

* 2. Years of Experience in Education:

* 3. Where do you currently work?

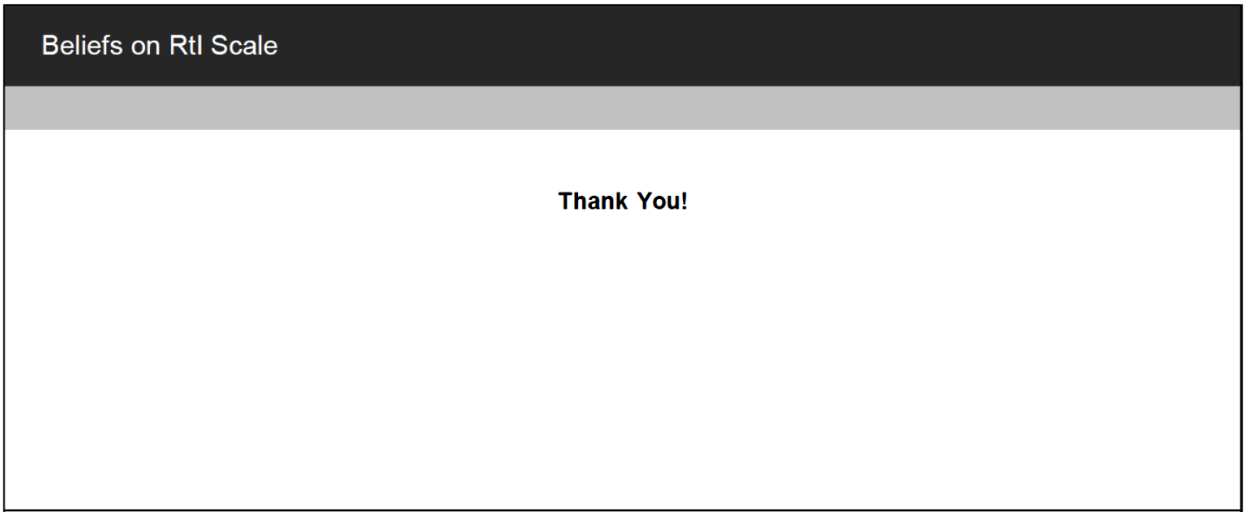
- ◯ Elementary A
- ◯ Elementary B
- ◯ Elementary C
- ◯ High School D
- ◯ Education District
- ◯ District Office

Beliefs on RtI Scale

* Using the scale below, please indicate your level of agreement or disagreement with each of the following statements.

1 = Strongly Disagree (SD) 2 = Disagree (D) 3 = Agree (A) 4 = Strongly Agree (SA)

	SD	D	A	SA
4. Core instruction should be effective enough to result in 80% of the students achieving benchmarks in reading.	○	○	○	○
5. The primary function of supplemental instruction is to ensure that students meet grade-level benchmarks in reading.	○	○	○	○
6. The majority of students with learning disabilities achieve grade-level benchmarks in reading.	○	○	○	○
7. The majority of students with behavioral problems (EBD) achieve grade-level benchmarks in reading.	○	○	○	○
8. Students with high-incidence disabilities (e.g. SLD, EBD) who are receiving special education services are capable of achieving grade-level benchmarks (i.e., general education standards) in reading.	○	○	○	○
9. General education classroom teachers should implement more differentiated and flexible instructional practices to address the needs of a more diverse student body.	○	○	○	○
10. The use of additional interventions in the general education classroom would result in success for more students.	○	○	○	○
11. Prevention activities and early intervention strategies in schools would result in fewer referrals to problem-solving teams and placements in special education.	○	○	○	○
12. The "severity" of a student's academic problem is determined not by how far behind the student is in terms of his/her academic performance but by how quickly the student responds to intervention.	○	○	○	○
13. The "severity" of a student's behavioral problem is determined not by how inappropriate a student is in terms of his/her behavioral performance but by how quickly the student responds to intervention.	○	○	○	○
14. Using student-based data to determine intervention effectiveness is more accurate than using only "teacher judgment."	○	○	○	○
15. Evaluating a student's response to interventions is a more effective way of determining what a student is capable of achieving than using scores from "tests" (e.g., IQ/Achievement test).	○	○	○	○
16. Graphing student data makes it easier for one to make decisions about student performance and needed interventions.	○	○	○	○
17. The goal of assessment is to generate and measure effectiveness of instruction/intervention.	○	○	○	○


Beliefs on RtI Scale
Thank You!

Appendix H: IRB Approval

ST. CLOUD STATE UNIVERSITY
EDUCATION FOR LIFE.

Institutional Review Board (IRB)

720 4th Avenue South AS 210, St. Cloud, MN 56301-4498

Name: Jean Duffy

Email: jduffy@stcloudstate.edu

IRB PROTOCOL DETERMINATION: Expedited Review-1

Project Title: Implementation of response to Intervention

Advisor Kay Worner

The Institutional Review Board has reviewed your protocol to conduct research involving human subjects. Your project has been: **APPROVED**

Please note the following important information concerning IRB projects:

- The principal investigator assumes the responsibilities for the protection of participants in this project. Any adverse events must be reported to the IRB as soon as possible (ex. research related injuries, harmful outcomes, significant withdrawal of subject population, etc.).

- For expedited or full board review, the principal investigator must submit a Continuing Review/Final Report form in advance of the expiration date indicated on this letter to report conclusion of the research or request an extension.

-Exempt review only requires the submission of a Continuing Review/Final Report form in advance of the expiration date indicated in this letter if an extension of time is needed.

- Approved consent forms display the official IRB stamp which documents approval and expiration dates. If a renewal is requested and approved, new consent forms will be officially stamped and reflect the new approval and expiration dates.

- The principal investigator must seek approval for any changes to the study (ex. research design, consent process, survey/interview instruments, funding source, etc.). The IRB reserves the right to review the research at any time.

If we can be of further assistance, feel free to contact the IRB at 320-308-4932 or email ResearchNow@stcloudstate.edu and please reference the SCSU IRB number when corresponding.

IRB Chair:

Dr. Benjamin Witts
Associate Professor- Applied Behavior Analysis
Department of Community Psychology,Counseling, and Family Therapy

IRB Institutional Official:

Dr. Latha Ramakrishnan
Interim Associate Provost for Research
Dean of Graduate Studies

OFFICE USE ONLY

SCSU IRB# 1745 - 2208	**Type:** Expedited Review-1	**Today's Date:** 11/3/2017
1st Year Approval Date: 10/27/2017	**2nd Year Approval Date:**	**3rd Year Approval Date:**
1st Year Expiration Date: 10/26/2018	**2nd Year Expiration Date:**	**3rd Year Expiration Date:**