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THE IMPACT OF THE MTSS FRAMEWORK ON SPECIAL EDUCATION REFERRAL RATES AND ELIGIBILITY FOR SPECIFIC LEARNING DISABILITIES

By
Tonya Scism Walker

A Dissertation Submitted to the
Gardner-Webb University School of Education
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Education

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Approval Page

This dissertation was submitted by Tonya Scism Walker under the direction of the persons listed below. It was submitted to the Gardner-Webb University School of Education and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Gardner-Webb University.

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Abstract

THE IMPACT OF THE MTSS FRAMEWORK ON SPECIAL EDUCATION REFERRAL RATES AND ELIGIBILITY FOR SPECIFIC LEARNING DISABILITIES. Walker, Tonya Scism, 2020: Dissertation, Gardner-Webb University. The purpose of this explanatory sequential mixed methods study was to examine the effect of the Multi-Tiered System of Support (MTSS) framework on special education referral rates and the eligibility of special education services in the category of specific learning disability at two elementary schools. This study also investigates educator perceptions of the impact the MTSS framework has had on special education referral rates and eligibility. Archival quantitative data on the special education referral rates and eligibility rates in the area of specific learning disability from 2009-2010 to the 2017-2018 school year were collected from the statewide special education database. Qualitative data regarding teacher perceptions were collected using focus groups and interviews of classroom teachers, interventionists, and special education teachers. Descriptive statistics were used to analyze the quantitative data, and a priori codes were used in analyzing the qualitative data. Analysis of the quantitative data revealed that special education referral rates and eligibility rates for specific learning disabilities increased at Schools A and B after MTSS implementation in 2009. Themes emerged from the qualitative data to address the research questions. One theme that emerged is educators perceived that special education referral and eligibility rates have decreased as a result of the MTSS framework. In addition, educators believed they have become better classroom teachers as a result of the MTSS framework. Educators also noted frustration with the frequent changes in MTSS that are implemented at the district and

state levels. Finally, educators did not understand how the MTSS framework and RTI model work together.

Keywords: MTSS framework, RTI model, special education, eligibility, specific learning disabilities, referral rates, eligibility rates

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Chapter 1: Introduction

Background of the Problem

Nationwide, educators face the requirement of meeting the skill needs of all students, regardless of academic and functional levels, and supporting their growth. Howe, Scierka, Gibbons, and Silberglitt (2003) argued that the needs of special education students are not being met by the present educational system. During 2015-2016, 13% of students attending public schools received special education services (National Center for Education Statistics, 2018). Among the students receiving special education services, 34% were eligible for services in the area of a specific learning disability (SLD; National Center for Education Statistics, 2018). Since 1980, the percentage of students eligible for special education services with an SLD began increasing (Vaughn & Fuchs, 2003). Due to this increase, more emphasis has been placed on accountability for student progress and growth using data-based decision-making and scientific-based instructional methods (Individuals with Disabilities Education Act [IDEA], 2004; U.S. Department of Education, 2004).

IDEA (2004) specified that all students access and make progress in the general curriculum. Furthermore, it supported the utilization of scientific research-based interventions and progress monitoring in the process of identifying students with learning disabilities. The Response to Intervention (RTI) model emerged in education with the passage of the No Child Left Behind Act (NCLB) in 2001, which sought to increase the academic achievement of disadvantaged children (U.S. Department of Education, 2004). According to Kovaleski, VanDerHeyden, and Shapiro (2013), the elements of the RTI model include multiple tiers of intervention, the use of a problem-solving method to

inform decision-making, and the collection of data to inform the problem-solving process. Developed later, the Multi-Tiered System of Support (MTSS) framework was initially introduced as a way for better identification of students for special education services (Positive Behavioral Interventions and Supports Technical Assistance Center, n.d.). The North Carolina Department of Public Instruction (n.d.) defined MTSS as, "a multi-tiered framework which promotes school improvement through engaging, research-based academics and behavioral practices that use data-driven problem solving to maximize growth for all" (para. 1). The RTI model falls under the MTSS framework and assigns students to tiers that increase in intensity and duration based on their lack of responsiveness to the instruction at a prior level (Schaffer, 2017).

RTI. The RTI model works within the MTSS framework and the terms are sometimes used interchangeably by educators (Edmentum, 2014). The RTI model is a problem-solving method which tracks student progress within tiers of instructional interventions (Armendariz, 2013; Lemmond, 2016). Diaz (2017) described a paradigm shift from providing support to struggling students with the RTI model to providing support to all students with the MTSS framework. Figure 1 presents the paradigm shift from RTI to MTSS that is described by Diaz.

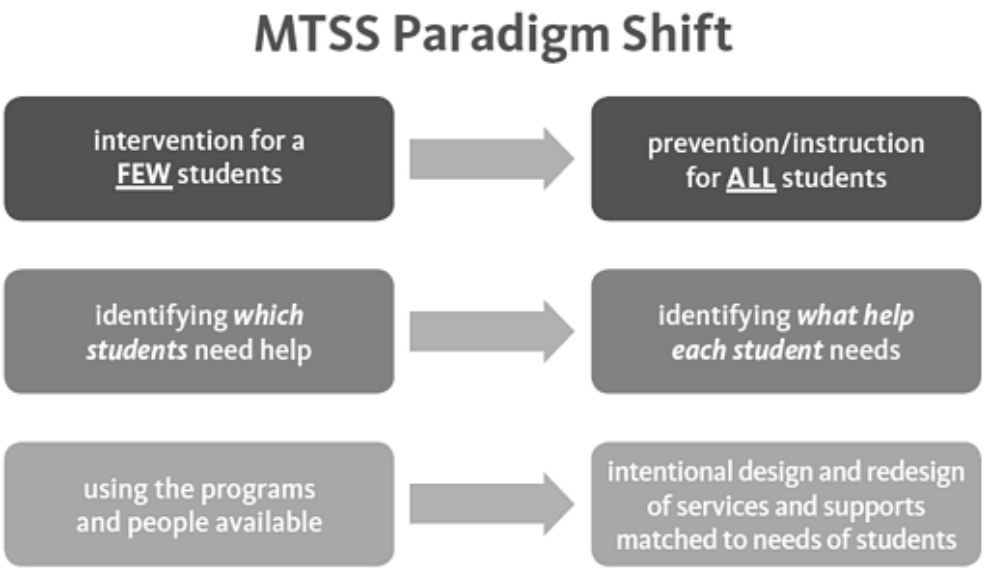

Figure 1. MTSS Paradigm Shift.

> **MTSS framework.** Batsche et al. (as cited in Edmentum, 2014) argued, MTSS, rooted in the data-informed practices of Response to Intervention and Positive Behavioral Interventions and Support, explicitly offers a multi-tiered approach. Emphasis is on school-wide, differentiated, universal core instruction at Tier 1; Tiers 2 and 3 provide intensive and increasingly individualized interventions. (para. 3)

The Positive Behavioral Interventions and Supports (PBIS) model is also a subsection of the MTSS framework and works together with the RTI model in identifying and maintaining desirable behaviors within educational institutions (Positive Behavioral Interventions and Supports Technical Assistance Center, n.d.). The MTSS framework implementation process consists of a problem-solving process for instructional decisions to be made and continuous student growth to occur (Positive Behavioral Interventions

and Supports Technical Assistance Center, n.d.). Figure 2 is an image of the problem-solving process used by the district and state.

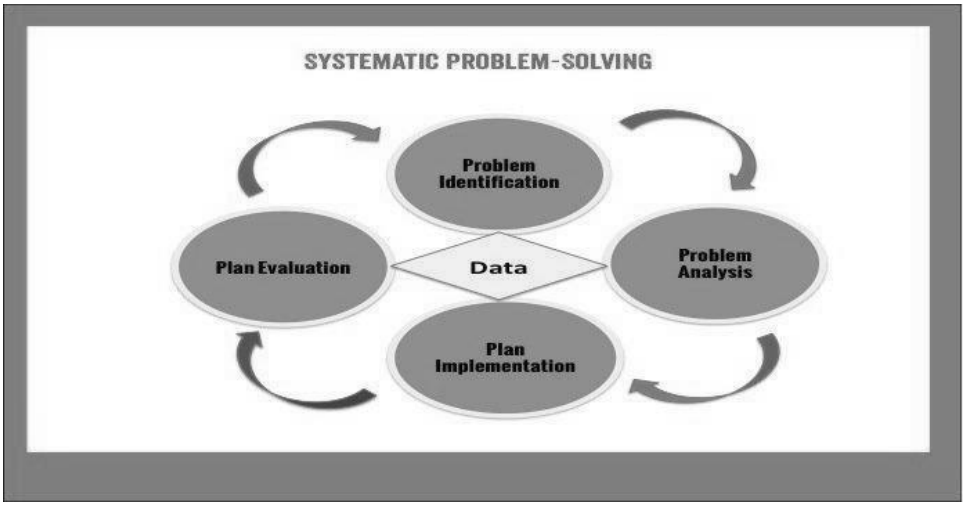

Figure 2. North Carolina Department of Public Instruction's Problem-Solving Model.

The steps of the problem-solving process are evaluate, analyze, identify, and plan (North Carolina Department of Public Instruction, n.d.). Instructional strategies are coordinated to student needs with the problem-solving process (Florida Department of Education, n.d.). Within the process, the critical elements of the problem are identified, assessment data are gathered to discover why students are not meeting their goals, the plan for evidence-based instruction is implemented, and progress monitoring data are collected to determine the plan's effectiveness (Florida Department of Education, n.d.).

RTI, MTSS, and teacher perceptions. With the RTI model being a subsection of the MTSS framework (Edmentum, 2014), teacher perceptions of both the model and framework are critical in successful implementation of school-based change efforts (Greenfield, Rinaldi, Proctor, & Cardarelli, 2010). In conducting a study of 21 school districts in southeastern Illinois, Raben (2017) found there was a small increase in the

number of students identified for special education services. Raben discovered there was a decline in students identified as eligible for special education services in the area of SLD, despite the rise in numbers of students being served in the special education program. Raben indicated that future research was needed to determine how the RTI model impacts special education eligibility across the country.

In a quantitative study conducted by Rhodes (2014), general and special education teachers indicated that RTI was too time-consuming and yielded few positive results. Teachers in this study also noted that they did not receive adequate support and that interventions were not effective (Rhodes, 2014). Rhodes suggested future qualitative research on teacher perceptions of the RTI model. Gersten and Dimino (2008) inferred that the RTI model must "mesh with the lives of teachers in classrooms and the realities of the core reading programs they are using" (p. 103) to be effective. Resistance to change, an insufficient knowledge base, and lack of funding causes problems with the correct implementation of the intervention process (Gersten & Dimino, 2008).

In studying the teacher perceptions of the RTI model in five elementary schools near Boston, Scollins (2016) determined that teachers affirmed the advantages of the RTI process in increasing student achievement and ensuring research-based interventions; however, these teachers were frustrated with the length of time students remained in the process and the time and duties associated with implementation. For future research, Scollins recommended further studies into the impact of RTI on special education referral rates. In a qualitative study to analyze the opinions of elementary general education teachers carried out by Cowan and Maxwell (2015), it was discovered that participants perceived the RTI process as worthwhile; however, they viewed the process as stressful

and inconsistently organized. Cowan and Maxwell's study had limited generalizability because it focused on one elementary school.

The essential components for the implementation of the MTSS framework include a collaborative problem-solving process, the fidelity of research-based instruction and interventions across grade levels, agreement among educators about MTSS implementation, knowledge of the MTSS framework, and data sources to inform decision-making (University of South Florida, n.d.). These essential components can impact educator opinions about changes to the special education identification process, which could significantly impact the implementation and success of the MTSS framework.

Over the years, the educational reform movement has been a constant work in progress across the United States. Law and policy changes for special and regular education have taken place, resulting in the Elementary and Secondary Education Act (ESEA, 1965), NCLB (2001), IDEA (1990, 1997, 2004), and Every Student Succeeds Act (ESSA, 2015). These laws, in addition to the MTSS framework, prompted increased accountability for all students in an effort to improve student achievement. This push for increased accountability has also caused special education identification practices to be questioned.

Historically, most schools primarily used the aptitude-achievement discrepancy model and the patterns of strengths and weaknesses method for identifying students for special education services in the area of SLD. Critics maintained that students were often misidentified or under-identified with these methods due to the inconsistent nature of the approaches (Restori, Katz, & Lee, 2009). In response to the debate surrounding these

approaches to SLD identification, the U.S. Department of Education Office of Special Education Programs (2003) held the Learning Disabilities Summit in August 2001 to examine research and discuss existing knowledge regarding learning disabilities. Following the summit, a smaller group of researchers decided upon recommendations for changes to law and practice regarding the identification of learning disabilities (U.S. Department of Education Office of Special Education Programs, 2003). The most significant of the recommendations was a criticism of the IQ-Achievement Discrepancy model, commonly referred to as the "wait to fail" method (U.S. Department of Education Office of Special Education Programs, 2003). Effective July 1, 2020, the North Carolina Department of Public Instruction (2015) Exceptional Children's Division will mandate the use of the response to research-based interventions as a component of SLD evaluations.

Statement of the Problem

In 2015, the classification of SLD was the most common disability category for all racial and ethnic groups, according to the U.S. Department of Education (2017a). The report indicated that nationally, the percentage of students identified as having an SLD has decreased from 4.0% in the fall of 2008 to 3.4% in the fall of 2015 (U.S. Department of Education, 2017b). However, North Carolina was one of eight states that did not see a decrease in the identification of SLDs during this same time period (U.S. Department of Education, 2017b). In fact, during those years, the percentage of students classified as having an SLD increased by 10.6% (U.S. Department of Education, 2017b).

The district serving as the focus of this study implemented the RTI model during the 2009-2010 school year within the two targeted schools. Despite this fact, data

obtained from the statewide case management and data analysis system for the 2017-2018 school year indicated that 31% of students receiving special education services within the district fall in the category of SLD, according to the special education data manager (personal communication, December 18, 2018) for the district under study.

The MTSS framework consists of three tiers of instructional interventions with formative assessment data being analyzed at each tier level to inform instructional decisions (Allington, 2009; Appelbaum, 2009; Brown-Chidsey & Steege, 2010). The goal of the tier structure is to ensure that assistance, which corresponds to each student's individualized needs, is delivered (North Carolina Department of Public Instruction, n.d.). Wanzek and Vaughn (2011) argued that the percentage of students identified for special education services under the category of a learning disability remained about the same after receiving tier 3 reading interventions; however, additional research is needed to determine if prevention models are associated with lower referral rates for special education initially or with increased referrals in later grades.

Not only does a lack of research exist on the impact of the MTSS framework on special education referral rates and identification, but also on the effect of the RTI model on referral rates and eligibility (Darst, 2014). Wise (2017) conducted an evaluation on the success of the RTI model in decreasing the overidentification of students with SLDs at three elementary schools in Tennessee. As a result of the study, it was determined that the RTI model decreased the number of students referred and determined eligible for having an SLD, and the quality of referrals made by the problem-solving team was improved (Wise, 2017). Wise determined that more professional development was needed for teachers as students move up the tiers. Wise indicated the need for future

research in monitoring the trend of special education referrals that lead to special education placement in the area of SLD.

Purpose of the Research

The purpose of this explanatory sequential mixed methods design is to examine the effect of the MTSS framework on special education referral rates and the eligibility of special education services in the area of SLD at sites within a school district located in the southeast. The study also investigates educator perceptions of the impact that the MTSS framework has had on special education referral rates and eligibility.

Definition of Terms

Aptitude-achievement discrepancy model. With the aptitude-achievement discrepancy model, also known as the IQ-achievement discrepancy model, students are evaluated for a learning disability based on whether or not there is a significant difference between a student's scores on a general intelligence assessment and those scores obtained on an achievement test (Kovaleski et al., 2013).

At-risk students. Students who are at risk are significantly discrepant from same grade peers, according to norming data, and are at risk for academic failure (Collins, 2013).

Data-based decision-making. The process of making instructional decisions based on individual student data (Wannemuehler, 2010).

MTSS. Batsche et al. (as cited in Positive Behavioral Interventions and Supports Technical Assistance Center, n.d.) defined MTSS as, "the practice of providing high-quality instruction and interventions matched to student need, monitoring progress frequently to make decisions about changes in instruction or goals, and applying child

response data to important educational decisions" (para. 2).

Pattern of strengths and weaknesses approach. Phipps and Beaujean (2016) defined the pattern of strengths and weaknesses approach as, "finding data that show academic deficits are related to a discrepancy between strengths and weaknesses in the student's cognitive processing as measured by standardized tests of cognitive ability" (p. 20).

PBIS approach. The 1997 amendment of IDEA incorporated PBIS, which delineated research-based strategies for teaching appropriate behaviors in school (Positive Behavioral Interventions and Supports Technical Assistance Center, 2019).

RTI model. "RTI is part of a multi-tiered system of support (MTSS) approach to the early identification of students with academic or behavioral difficulties" (Alfonso & Flanagan, 2018, p. 16).

SLD.

> The term specific learning disability means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in the imperfect ability to listen, think, speak, read, spell, or do mathematical calculations. Such a term includes such conditions as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. Such a term does not include a learning problem that is primarily the result of visual, hearing, or motor disabilities; of mental retardation; of emotional disturbance; or of environmental, cultural, or economic disadvantage. (IDEA, 2004, para. 1).

Conceptual Framework

Since the passage of the original IDEA more than 4 decades ago, educators and policy makers have expressed uneasiness about disproportionality in education (Powell, 2011; Sullivan & Bal, 2013; U.S. Department of Education, 2016a). Powell (2011) associated disproportionality with the paradox of special education. In describing the paradox of special education, students are provided with services, accommodations, and legal rights to assist them with being successful; however, eligibility of special education services can lead to insufficient access to the general education curriculum, decreased expectations from teachers, and the stigma of being identified (Powell, 2011). Being labeled and treated as having a disability can cause significant emotional distress for a child and can outweigh the benefits (Raj, 2016).

Nationally, school districts have struggled with the overrepresentation of minority students as having disabilities (Raj, 2016). Students of color continue to be overly identified as having a disability, according to the U.S. Department of Education (2016b). According to the U.S. Department of Education (2017b), African American students are 1.4 times more likely to be associated as having a learning disability. Educational outcomes are impacted by stress, exposure to environmental toxins, and poor nutrition, which negatively affect children in poverty (Jiang, Granja, & Koball, 2017). Statistics from the National Center for Children in Poverty indicated that the majority of students from poverty backgrounds are minorities with 63% of Black children, 61% of Hispanic children, and 61% of American Indian children coming from low-income families, whereas only 30% of White children and 29% of Asian children come from low-income families (Jiang et al., 2017).

Teacher perspectives and viewpoints about race and culture influence instructional decision-making and the referral of students for special education services (Bennett, 2014). Swanson (2006) referred to classroom teachers as the gatekeepers for special education referrals. In a study conducted by researchers at New York University (2016), it was discovered that classroom teachers were more likely to refer White males with academic skill deficits for testing than Black and Latino boys. At the same time, teachers were more likely to refer Black and Latino boys with behavioral skill deficits for testing than White males (New York University, 2016). Research conducted by Kvande, Belsky, and Wichstrom (2017) determined that boys and children from low-income families are more likely to receive special education services; however, these males experienced more symptoms of Attention Deficit Hyperactivity Disorder and Oppositional Defiant Disorder.

Accountability with ESSA has resulted in districts using student data to make informed decisions about research-based instructional strategies (U.S. Department of Education, n.d.). The rationale behind ESSA is to guarantee that all students receive a quality education, including English language learners, minorities, students in poverty, and students who receive special education services (U.S. Department of Education, n.d.). Many states, including North Carolina, have begun using the MTSS framework and RTI model to address the mandates of ESSA and IDEA (Wright, 2007). The MTSS framework is defined by Batsche et al. (as cited in Positive Behavioral Interventions and Supports Technical Assistance Center, n.d.) as, “the practice of providing high-quality instruction and interventions matched to student need, monitoring progress frequently to make decisions about changes in instruction or goals, and applying child response data to

important educational decisions" (para. 2). The RTI model is a multi-tiered approach and is a subsection of MTSS and utilized as a part of the comprehensive framework (Alfonso & Flanagan, 2018.).

Districts within North Carolina utilize formative assessment for data-based decision-making (North Carolina Department of Public Instruction, 2018c). Individual student instruction is adapted based on the results of formative assessment measures such as universal screening and progress monitoring (Dougherty & McKenna, 2013). A student's progression through the tiers is based on formative assessment data to determine how they compare to peers (Brown-Chidsey & Steege, 2010). Most students make adequate progress with interventions; however, others may fail to make satisfactory progress with interventions to such an extent that the existence of a disability and the need for special education services may need to be considered (Brown-Chidsey & Steege, 2010).

Effective July 1, 2020, the North Carolina Department of Public Instruction (2016) mandated the use of the MTSS framework for determining the identification of SLDs. Figure 3 depicts the visual representation of the MTSS framework umbrella. MTSS is an umbrella term used to describe the subcomponents of the framework.

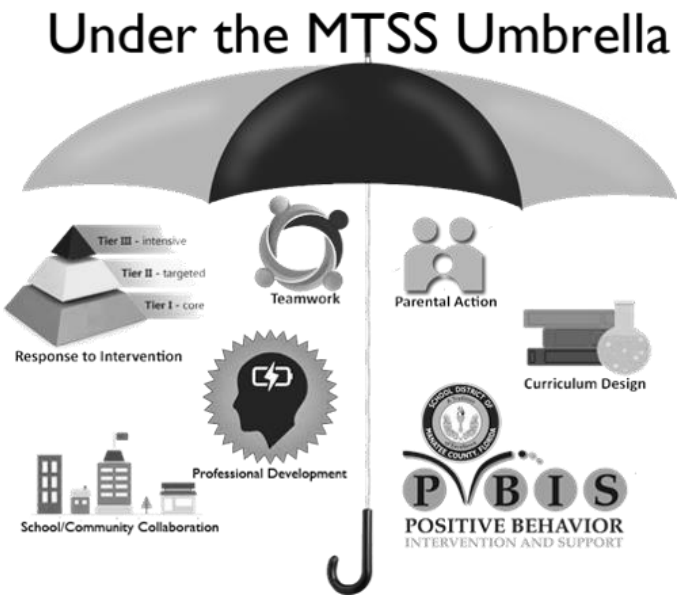

Figure 3. The MTSS Umbrella.

The components of the MTSS framework are the RTI model, leadership, collaboration, professional development, teamwork, parental action, curriculum design, and PBIS (University of South Florida, n.d.). The fluidity of the RTI model allows for the transition of students within the tiers as needed, based on student progress monitoring data (University of South Florida, n.d.). The tiered structure allows for interventions to be matched with individual student needs at the core, supplemental, and intensive levels (North Carolina Department of Public Instruction, 2019).

Parental action is another component of the MTSS framework (North Carolina Department of Public Instruction, 2019). Meaningful academic partnerships must be established between families and the school to generate a deeper understanding of how families prefer to engage in their child's education and will yield opportunities to build engagement strategies at home. School and family collaboration is important for identifying and supporting student nonacademic needs, which may negatively affect

academic performance (Redding, Murphy, & Sheley 2011).

In addition to collaboration with families, school and community relationships are also critical components of the MTSS framework (North Carolina Department of Public Instruction, 2019). According to Redding et al. (2011), "a school community rests upon mutual respect, strong relationships, shared responsibility and focused attention to students' academic, personal, social, and emotional learning" (p. 28). Hall and Hord (2015) maintained, "An important but often neglected set of interventions are those actions taken to keep individuals and groups external to the implementation site informed about what is happening" (p. 36).

Teamwork is critical for successful implementation of the MTSS framework (North Carolina Department of Public Instruction, 2019). At the school level, problem-solving teams must effectively work together in evaluating data and addressing barriers to student achievement (North Carolina Department of Public Instruction, 2019). Within productive teams, individuals are committed to their shared objectives and they support one another (Danielson, 2006). Drago-Severson (2009) maintained that effective teaming encourages collaboration and reflective practice among group members. According to Drago-Severson and Blum-DeStefano (2018), "When undertaken with developmental intentionality, teaming provides a safe and productive way to explore and grow from diverse perspectives, practices, thinking, and assumptions" (p. 74).

Effective professional learning encourages a culture for ongoing advancement for all those involved in the learning process (Professional Learning Association, 2017). Professional learning that equips educators with evidence-based instructional strategies is necessary for MTSS implementation (North Carolina Department of Public

Instruction, 2019). Educators who engage in collaborative learning are able to learn new information and create momentum for a culture of continuous improvement (DuFour, DuFour, Eaker, & Many, 2010). Professional learning facilitates the curriculum design process, wherein research-based strategies and student data are used to examine avenues for improvement (Ainsworth, 2010).

Successful implementation of the MTSS framework is dependent on an evidence-based curriculum that is implemented across all grade levels and settings (North Carolina Department of Public Instruction, 2019). Because the MTSS framework is meant for all students, an intentional redesign of curriculum, services, and supports paired to student needs is critical to successful implementation (Ehren, Ehren, & Proly, 2009). Ainsworth (2010) suggested that curriculum be student focused and be "adaptable to the diverse and continuously changing learning needs of all the students it serves" (p. 8).

PBIS is another critical component of the MTSS framework. PBIS is defined as an approach for "addressing behavior through the prevention-oriented structuring of research-based interventions and supports in a hierarchical and progressive manner for the purpose of improved behavioral and academic outcomes" (PBIS World, 2019, para. 2). PBIS is a subsection of the MTSS framework and uses the three-tiered model for consolidating data, systems, and practices to improve student behavior (Positive Behavioral Interventions and Supports Technical Assistance Center, 2019).

Within the MTSS, all students receive research-based, differentiated core instruction and supports at the Tier 1 level (North Carolina Department of Public Instruction, 2018d). Increased achievement for all students requires constant change at the federal, state, district, and school levels (Friedman & Mandelbaum, 2011). Hall and

Hord's (2015) second change principle indicated that change is a process and does not occur overnight. To implement change, stakeholders must work as a team and be provided a voice and shared responsibility to understand why the change must occur (Gruenert & Whitaker, 2015). According to Gruenert and Whitaker (2015), "if educators respond by critically examining their own behaviors, they may end up shifting the culture in a positive direction" (p. 140).

Educators who are currently implementing the MTSS framework within the two targeted schools have knowledge about the MTSS framework and how the framework has impacted special education eligibility within their sites. Coonce (2015) asserted that some educators do not believe that they are equipped to execute the RTI model; therefore, obtaining additional knowledge about educator perceptions about the model will allow the district to speak to variability, sustain research-based instruction, and decrease special education referrals (Kozleski & Huber, 2010). The qualitative data on teacher perceptions of the MTSS model collected as part of this study will provide the district with valuable information on the strengths and needs pertaining to the effectiveness of core classroom instruction, thus contributing to successful implementation of the framework within the district.

Research Questions

The purpose of this study is to investigate the impact of the MTSS framework on referral rates for special education eligibility and the rate of students eligible for special education services in the area of SLDs as well as to investigate the teacher and administrator perceptions of the MTSS framework on special education referral rates and special education eligibility rates for the classification of SLD. The study is directed by

the following research questions:

1. What effect does implementation of the MTSS framework have on referral rates for special education eligibility?
2. What effect does implementation of the MTSS framework have on the rate of students eligible for special education services in the area of SLD?
3. What are the perceptions of educators about the MTSS framework in determining special education identification?

Significance of the Study

The focus of the study is to investigate the effect of the MTSS framework on special education referral rates and eligibility for special education services in the area of SLD. In order to establish a consistent process for identifying students with an SLD and prepare for the early identification of students who are struggling academically, the North Carolina State Board of Education will require that all school districts utilize a student's responsiveness to scientific research-based instruction and intervention through the MTSS framework as a component for a comprehensive evaluation by July 1, 2020 (North Carolina Department of Public Instruction, 2016). This research will make a significant contribution to school districts by providing information about changes in the percentage of student referrals and percentage of students determined eligible for special education services over time with the MTSS framework as well as information on how to support teachers in implementing the MTSS framework effectively.

Dissertation Overview

The MTSS framework provides targeted support within the core curriculum for struggling students (Kovaleski et al., 2013), thus reducing the number of students referred

for special education and identified for special education services (Alfonso & Flanagan, 2018). The framework was initiated within the district during the 2009-2010 school year in four schools, with additional schools added each year. Currently, all schools within the district use the MTSS framework. Sample populations for this study include two of the schools that initiated the MTSS framework during the 2009-2010 school year. These sites were selected for the study due to their reputation within the district for implementing the MTSS framework with fidelity.

Effective July 1, 2020, the North Carolina Department of Public Instruction (2015) has mandated that the MTSS framework/RTI model be used in determining eligibility for special education services in the classification of SLD. With the framework becoming the primary model for the identification of students with SLDs, additional research is needed to determine if there is a downward trend in special education referrals and students identified as having SLDs. In addition, administrators and teachers who are currently implementing the MTSS framework within the two targeted schools have knowledge about the MTSS framework and how the framework has impacted special education eligibility with their sites. Research concerning educator perceptions concerning the impact of the MTSS framework on special education may contribute to successful implementation across the district and inform other districts with regard to implementation efforts.

Chapter 2: Literature Review

Introduction

The RTI model was launched with the reauthorization of IDEA in 2004 (VanDerHeyden & Burns, 2010). The MTSS framework, developed after the RTI model, was introduced as a way to better identify students for special education services (Positive Behavioral Interventions and Supports Technical Assistance Center, n.d.). Used interchangeably by some educators, the RTI model is a subsection of the MTSS framework and works within the framework to inform instructional decision-making (Edmentum, 2014). North Carolina and other states are changing their focus to the MTSS framework as a part of a comprehensive evaluation for the identification of SLDs (North Carolina Department of Public Instruction, 2015).

As a result of federal and state mandates, local districts are implementing procedures for the MTSS framework. This literature review provides a cornerstone of how the MTSS framework came about and factors impacting implementation. The review also provides research on how the framework is used in the eligibility process for SLDs.

Historical Background of MTSS

The achievement gap. The educational achievement gap is known as "the disparity in academic performance between groups of students" (Ansell, 2011, para. 1). NCLB sought to close the achievement gap between lower and higher performing students by holding school districts more accountable (U.S. Department of Education, 2004). This law required that all students be proficient in reading and math no later than 2014, regardless of disability (U.S. Department of Education, 2004). NCLB was

reinforced with the reauthorization of IDEA in 2004, which required that students with disabilities receive instruction to the maximum extent possible within the general education classroom in order for them to be ready and more accountable for state-mandated testing (U.S. Department of Education, n.d.). The RTI model came about with the 2004 reauthorization of IDEA in an effort to close the achievement gap and ensure that high standards are maintained for all students (U.S. Department of Education, 2004).

Data from the U.S. Department of Education (2017b) indicated that students of some races and ethnicities are more likely to be served under IDEA. In an effort to close achievement gaps, many states are implementing the MTSS framework. The MTSS framework came about after the RTI model and uses data-driven problem-solving and systemic change to improve academic and nonacademic student achievement (Positive Behavioral Interventions and Supports Technical Assistance Center, n.d.). The RTI model works with the MTSS framework and falls under the much broader MTSS umbrella (Positive Behavioral Interventions and Supports Technical Assistance Center, n.d.). Statistics from the Great Schools group suggested that the achievement gap between low-income and high-income students in North Carolina is widening at a faster rate than any other state (Dauter & Olivieri, 2016). Effective July 1, 2020, the MTSS framework is being mandated by the North Carolina Department of Public Instruction (2016) in order to close achievement gaps and for the identification of SLDs.

Disproportionality. Disproportionality is caused by slower rates of declassification from special education programs (Voulgarides, Fergus, & King Thorius, 2017). The National Education Association (2007) defined disproportionality as the "overrepresentation or under-representation" (p. 6) of a group in special education

programs. Research on disproportionality focuses on high incidence or judgmental categories of disability such as intellectual disabilities, learning disabilities, emotional and behavioral disabilities, and speech language impairment (National Education Association, 2007; Voulgarides et al., 2017). Inconsistencies in professional judgement often occur in the diagnosis of judgmental disabilities (Sullivan & Bal, 2013).

Voulgarides et al. (2017) discovered that Black, Hispanic, and American Indian students were more likely to be identified as having a high incidence disability than their White peers. Since data began being collected in 1968, there has been disproportionality with African American students in judgmental categories of special education (O'Connor & Fernandez, 2006). The reauthorization of IDEA in 1997 mentioned disproportionality, but little change was seen in the reduction of disproportionality (Voulgarides et al., 2017). When IDEA was reauthorized in 2004, attention was brought to disproportionality in the least restrictive environment, discipline, and the overrepresentation of Black students in special education (Voulgarides et al., 2017).

The purpose of the MTSS framework is to decrease the number of inappropriate special education referrals by providing early interventions for student growth (Radosta, 2013). Morris (2012) maintained that the MTSS framework eliminates disproportionality by being a more exact indicator for the need for special education services. Likewise, a 40% decrease in the disproportionate placement of minority students in special education and alternative settings occurred in Florida, as a result of the implementation of the MTSS framework/RTI model (Torgesen, 2009).

Special education. Looking back into special education history, little was done in furthering the rights of individuals with disabilities prior to the 1970s, which were the

foundational years for special education. Causton and Tracy-Bronson (as cited in Villegas, 2017) asserted that students with mild disabilities began to be included within general education classrooms more often due to strong parent support in the mid to late 1970s.

During the 19th century, private and charity-based initiatives began offering services for individuals with disabilities, primarily those from families with financial means (Winzer, 2009). The first institution for the deaf, American Asylum for the Education of the Deaf and Dumb, was opened in Hartford, Connecticut in 1817, followed by the first institution for the blind in 1829 in Massachusetts, now called the Perkins School for the Blind (Winzer, 2009). Later in 1848, the School for Idiotic and Feebleminded Children was opened in Massachusetts for the purpose of educating children with disabilities (Winzer, 2009). During this time period, a law was passed in 1890, making it the state's responsibility to provide institutions for children with disabilities (Winzer, 2009).

The 20th century brought about laws that guaranteed the right to education for students with disabilities. The Supreme Court case *Brown v. Board of Education* (1954) was a landmark civil rights ruling that banned segregation and stated that all children had the right to an equal education (Winzer, 2009). The Supreme Court ruled, "In these days, it is doubtful that any child may reasonably be expected to succeed in life if he is denied the opportunity to an education" (*Brown v. Board of Education of Topeka*, 1954, para. 14). During the 1960s, parent advocacy groups began demanding rights for children with disabilities and began gaining power (Special Education News, 2019). John F. Kennedy formed the President's Panel on Mental Retardation in 1961 (Special Education News,

2019). In 1961, the ESEA was passed and provided school districts with finances to cover the expenses of educating disadvantaged students (Merz, 1967). Parent advocacy groups viewed the passing of ESEA as a way of increasing access to a public education for students with disabilities (Special Education News, 2019). Despite the passage of ESEA, very few students with disabilities received an education in the public school system (Esteves & Rao, 2008).

Pennsylvania Association for Retarded Children v. Commonwealth (1971) and *Mills v. Board of Education of District of Columbia* (1972) were game changers in special education law (Winzer, 2009). In both cases, the Supreme Court ruled against the exclusion of students with disabilities and guaranteed rights to equal education for children with disabilities (Wright, 2010). Historically, children with disabilities were excluded from instruction until 1975 if teachers did not view them as benefiting from education (Winzer, 2009). Children with disabilities were also excluded from compulsory attendance laws until the mid 1970s (Winzer, 2009).

Following *Pennsylvania Association for Retarded Children v. Commonwealth* (1971) and *Mills v. Board of Education of District of Columbia* (1972), Congress conducted an investigation into the educational status of students with disabilities and found that up to half of the estimated 8 million children with disabilities in the U.S. were either being inappropriately educated or fully excluded from the public school setting (Wright, 2010). During the investigation, in 1975, Congress also discovered that there was an overrepresentation of African American students in special education programs (Wright, 2010). After the investigation, Congress wrote,

The long-range implications of these statistics are that public agencies and

> taxpayers will spend billions of dollars over the lifetime of these individuals to maintain such persons as dependents and in a minimally acceptable lifestyle. With proper education services, many would be able to become productive citizens, contributing to society instead of being forced to remain burdens. Others, through such services, would increase their independence, thus reducing their dependence on society. There is no pride in being forced to receive economic assistance. Not only does this have negative effects upon the handicapped person, but it has far-reaching effects for each person's family. (Wright, 2010, para. 25)

Section 504 of the Rehabilitation Act of 1973 ensured that students with disabilities received accommodations in school and was the first civil rights law (Wright, 2010). The U.S. Department of Education (n.d.) maintained,

> Under Section 504, FAPE (Free and Appropriate Public Education) consists of the provision of regular or special education and related aids and services designed to meet the student's individual educational needs as adequately as the needs of nondisabled students are met. (para. 5)

Originally known as the Education for all Handicapped Children Act and enacted in 1975, Public Law 94-142 ensured the right to a free and appropriate public education in the least restrictive environment (U.S. Department of Education, n.d.; Winzer, 2009). Public Law 94-142 also provided families with more input into their child's education (Winzer, 2009). During the 1980s, a national concern for the education of students with disabilities emerged (Esteves & Rao, 2008). The initial special education Supreme Court case occurred in 1982 with the *Board of Education of Hendrick Hudson Central School*

District v. Rowley. The Supreme Court ruled that public schools are required to meet the educational needs of students with disabilities so the students benefit from instruction and gave the lower courts a standard to follow when determining a free and appropriate public education (Cornell Law School, n.d.).

Public Law 94-142 was renamed IDEA when reauthorized in 1990 (U.S. Department of Education, n.d.; Winzer, 2009). Reauthorizations of IDEA also occurred in 1997, 2004, and 2015 (U.S. Department of Education, n.d.). When reauthorized in 2015, IDEA was renamed ESSA (U.S. Department of Education, n.d.). With the reauthorization of ESSA in 2015, Congress stated,

> Disability is a natural part of the human experience and in no way diminishes the right of individuals to participate in or contribute to society. Improving educational results for children with disabilities is an essential element of our national policy of ensuring equality of opportunity, full participation, independent living, and economic self-sufficiency for individuals with disabilities. (U.S. Department of Education, n.d., para. 5)

NCLB was a reauthorization of the ESEA in 2002 and increased accountability for student achievement (U.S. Department of Education, n.d.). The purpose of NCLB was to close the achievement gap between lower and higher performing students by holding schools more accountable (IDEA; Winzer, 2009). NCLB focused on the flexibility of funds, accountability, research-based instruction, and additional parent options for those whose children who attend Title I schools (Winzer, 2009). NCLB also focused on decreasing the rate of disadvantaged students placed in special education programs (Winzer, 2009). Strategies connected to increasing student achievement by

mandating the use of research-based instructional strategies were linked to NCLB (Winzer, 2009). NCLB established high standards as a basis for the RTI model (Collins, 2013).

ESSA was signed into law on December 10, 2015, by President Obama and was a reauthorization of the ESEA (U.S. Department of Education, n.d.). The purpose of ESSA was to ensure that all students, including minorities, English language learners, students with disabilities, and students in poverty, receive a high-quality education (U.S. Department of Education, n.d.). With ESSA, schools are rated on student performance as well as graduation rates and the percentage of students who achieve state standards in reading and math (U.S. Department of Education, n.d.).

To be eligible for special education services, a student must be eligible for one or more of 14 disabling conditions, the disability must have an adverse impact on the student's educational performance, and the disability must require specially designed instruction (Lindstrom, 2019; North Carolina Department of Public Instruction, 2018b). The categories of disability recognized by North Carolina are autism, deaf-blindness, deafness, developmental delay, emotional disturbance, hearing impairment, intellectual disability, multiple disabilities, other health impairment, SLD, speech or language impairment, traumatic brain injury, and visual impairment, including blindness (North Carolina Department of Public Instruction, 2018b).

According to IDEA (2004), an SLD is defined as "one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in the imperfect ability to listen, think, speak, read, spell, or do mathematical calculations" (para. 1). Mercer, Forgnone, and Wolking (as

cited in Collins, 2013) stated that the aptitude-achievement discrepancy model has been the foremost method of identifying students with SLDs since 1974 when the initial guidelines for SLD eligibility were initially published. Beginning July 2020, a student must present insufficient academic achievement, inadequate progress, and an adverse effect on educational performance to be eligible for the category of SLD (North Carolina Department of Public Instruction, 2018c).

Least restrictive environment. The Individuals with Disabilities Education Act (IDEA) requires that students with disabilities receive a free and appropriate public education (FAPE) in the least restrictive environment (LRE) (Carson, 2015). U.S. Supreme Court interpretations of FAPE have evolved over time. In establishing the standard for an "appropriate education," the U.S. Supreme Court in the case *Board of Education of the Hendrick Hudson Central School District v. Rowley* defined it as "personalized instruction with sufficient support services to permit the child to benefit educationally from that instruction (McGovern, 2015, p. 122). The court noted that an IEP require "some educational benefit" while simultaneously providing "meaningful benefit" (Corwin, 2018, p. 597). During the years following the *Rowley* decision, court interpretations of FAPE were inconsistent (Cowin, 2018).

In the *Endrew F. v. Douglas County School District,* the Supreme Court clarified the scope of FAPE's requirements by implementing a higher educational standard for students with disabilities. The court rejected minimal progress in favor of "every child should have the chance to meet challenging objectives" (United States Department of Education, 2017, p. 3). The *Endrew* decision requires that students with disabilities make appropriate progress on learning that is "challenging and ambitious for the individual"

(Kauffman, Wiley, Travers, Badar, & Anastasiou, 2019, para. 3). Districts must ensure that Individualized Education Plans that created that allow students with disabilities to "progress in light of their circumstances" (Yell & Bateman, 2019, p. 15).

The Individuals with Disabilities Education Act (IDEA) requires that students with disabilities be educated in the least restrictive educational environment (Carson, 2015). According to Heumann and Hehir:

> LRE means that, to the maximum extent appropriate, school districts must education students with disabilities in the regular classroom with appropriate aids and supports, referred to as supplementary aids and services, along with their nondisabled peers in the school they would attend if not disabled. (as cited in Underwood, 2018, para. 4)

A continuum of placements, ranging from the general education classroom, which is the least restrictive setting, to the most restrictive settings such as public separate schools and institutions (Jane Wettach Children's Law Clinic Duke Law School, 2017). Students who receive the majority of their special education services within less restrictive placement settings receive more educational benefit (Carson, 2015). Under IDEA, special education is not a "place or placement or a pre-packaged program. Special education is a service for children rather than a place where such children are sent (Wright's Law, 2019, para. 10).

RTI. As a result of the continuous attention to ending the achievement gap, there is a growing push for using research-based strategies to increase the achievement of struggling students. NCLB required that all students read on grade level by 2014 (U.S. Department of Education, 2004). The mandates of NCLB included students with

disabilities (U.S. Department of Education, 2004). The RTI model satisfied the federal mandates of NCLB (Wannemuehler, 2010).

RTI is a subcategory under the MTSS umbrella (Alfonso & Flanagan, 2018) and falls within the MTSS framework (Diaz, 2017). The RTI problem-solving model emerged in education with the passage of NCLB in 2001, which sought to increase the academic achievement of disadvantaged children (U.S. Department of Education, 2004). According to the National Center for Learning Disabilities (2019), RTI is a problem-solving process that tracks student response to research-based instruction and found its way into special education law with the passage of IDEA of 2004. Reschly (as cited in Neumann, 2015) defined RTI as a "process for designing and delivering interventions" (p. 22).

RTI is a complex approach that provides support for all students and entails general and special education processes for remediating struggling students (Lemmond, 2016). With the RTI model, students are identified and placed on a tier structure based on the extent of their academic or behavioral needs (Armendariz, 2013). The Center on Response to Intervention (n.d.) identified the four critical components of the model as,

1. Multi-level prevention system that provides interventions at different tier levels;
2. Universal screening for identifying struggling students;
3. Progress monitoring for tracking student progress; and
4. Data-based decision-making at implementation and all levels of instruction.

Neumann (2015) suggested the purpose of the RTI model is to be used as a prevention model and to determine eligibility for special education services in the area of

SLD. RTI has the capacity to decrease the disproportionate rate in which students are placed in special education programs by identifying students with SLDs earlier and more precisely (National Joint Committee on Learning Disabilities, 2020). In a study conducted by Burns, Appleton, and Stehouwer (2005), it was discovered that the RTI model reduced special education referrals, special education placement, and student retention and increased the number of students being declassified from special education services.

Tier structure of RTI. The RTI model is most commonly represented by a 3-tier triangle (Appelbaum, 2009; Brown-Chidsey & Steege, 2010). The intensity of interventions and rate of progress monitoring increase with each level of the pyramid (Allington, 2009). Ehren et al. (2009) illustrated various RTI models with different numbers of tiers; however, a commonality among the approaches is that tier 1 represents the core curriculum with the intensity of interventions increasing as the number of the tier increases. Within the district, RTI is utilized with academics, behavior, and social skills as subcategories within the MTSS framework. Figure 4 is an image of the tiered model used by the district and state.

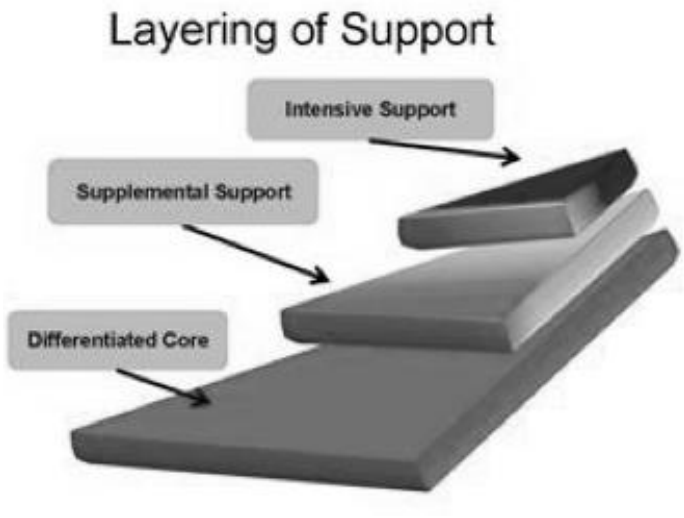

Figure 4. North Carolina Department of Public Instruction's 3-Tiered Model of the MTSS Framework.

Tier 1. Howard (2009) indicated that tier 1 interventions are "universal" for all students and occur within the general education classroom. Within tier 1, students receive the core instruction and differentiated core instruction within the general education classroom, predominately in a whole group setting (Appelbaum, 2009). Brown-Chidsey and Steege (2010) maintained that "the use of scientifically based core curriculum in all subject areas for all students" (p. 141) is required. The North Carolina Department of Public Instruction (n.d.) asserted that "80 percent of our students should possess the minimum skills necessary to acquire core content for that grade level with differentiated CORE instruction" (para. 4). Kovaleski et al. (2013) suggested that the components of tier 1 include "a robust, standards-aligned core curricula; evidence-based instructional practices; universal screening of basic academic skills, and grade-level teaming to analyze data, set system targets for improvement, adjust core instruction, and make screening decisions" (p. 27).

Within tier 1, all students are screened to identify those learners who are struggling and need additional interventions (Schaffer, 2017). According to the lead school psychologist (personal communication, September 10, 2019) in the district under study, students are typically screened three times per year (September, January, and May) with the first screening serving as a baseline for growth. Universal screening data indicate which learners demonstrate significant skill deficits and are considered at risk, requiring differentiated instruction or tier 2 interventions (Kovaleski et al., 2013). Examples of tier 1 interventions include aligning instructional material with a student's reading level or classroom teams earning incentives for following the school rules (PBIS World, 2019).

Tier 2. Students who do not make comparable growth to their peers in an appropriate amount of time with differentiated core instruction are moved to the tier 2 level of interventions (Appelbaum, 2009). Tier 2 interventions target specific skill deficits and occur within individualized or small group settings (Howard, 2009). Approximately 15% of students require tier 2 explicit instruction in order to obtain the core content (North Carolina Department of Public Instruction, n.d.). Tier 2 incorporates instructional materials and strategies that are utilized in addition to the tier 1 core curriculum (Brown-Chidsey & Steege, 2010). Tier 2 interventions are intended to supplement the core curriculum (Kovaleski et al., 2013).

Tier 2 interventions occur two to three times per week and last 20-30 minutes per session with progress monitoring occurring at least every 2 weeks (Appelbaum, 2009). Research-based tier 2 interventions include using letter tiles for decoding instruction or the use of a check-in check-out system for receiving frequent feedback on behavior goals

(PBIS World, 2019). When students do not achieve adequate progress in tier 2, they are moved to a more intense level of interventions with the tier 3 level of supports (Appelbaum, 2009). Alfonso and Flanagan (2018) maintained that at least 12-14 data points need to be collected in tier 2 prior to a student being increased to tier 3.

Tier 3. Tier 3 interventions are based on data and customized by the school level problem-solving team (Howard, 2009). At the tier 3 level, interventions are provided by a highly qualified teacher within an individualized or smaller group setting of one to three students (Howard, 2009). The frequency of tier 3 interventions is greater than the second tier and recommended to occur four to five times weekly and last 60 minutes per session (Appelbaum, 2009). Examples of tier 3 interventions are commercial research-based reading and math programs such as SRA Reading Mastery and Number Worlds (WF, personal communication, September 10, 2019). In the area of behavior, a functional behavior assessment and behavior intervention plan are considered to be research-based tier 3 interventions (PBIS World, 2019).

Progress monitoring occurs weekly with tier 3 interventions to measure student response to the intensive interventions and to determine if adjustments to instruction need to be made (Kovaleski et al., 2013). The North Carolina Department of Public Instruction (n.d.) indicated that 5% of students require the intensive interventions of tier 3. If a student fails to make sufficient progress with the tier 3 level of support, the student may be referred for a special education evaluation (Alfonso & Flanagan, 2018). Alfonso and Flanagan (2018) maintained that at least 12-14 data points should be collected in tier 2 prior to a student being referred for a special education evaluation. Table 1 provides an overview of the tiers.

Table 1

Overview of the Tiers

	Tier 1 Core Curriculum	Tier 2 Supplemental Instruction	Tier 3 Intensive Intervention
Essential Components	Standards-aligned, research-based instruction with differentiation to meet individual student needs. Core instruction is adjusted based on student data	Core instruction is supplemented with standard research-based interventions that target specific skills. Students are identified based on universal screening scores.	Students at Tier 3 receive more intensive and individualized interventions in addition to the core curriculum and Tier 2 interventions. Based on student data, customized interventions are planned by the Problem-Solving Team. Students who do not make sufficient progress at Tier 2 are moved to Tier 3.
Size of Instructional Group	Whole class grouping	Small group instruction (3-6 students)	Individualized or small group instruction (1-3 students)
Frequency of Progress Monitoring	Universal screening measures occur three times per year-usually fall, winter, spring.	Progress monitoring occurs at least every two weeks.	Progress monitoring occurs weekly.
Frequency of Intervention Provided	The frequency of interventions is based on individual school schedules.	The frequency of interventions usually occurs 3-5 times per week at 20-30 minutes.	The frequency of tier 3 interventions is greater than tier 2; however, they are recommended 4-5 times per week at 60 minutes.
Number of Data Points Needed to Move to Next Tier	1 data point	At least 12-14 data points	At least 12-14 data points
Examples of Interventions	Academics Align material with the student's reading level Behavior Classroom teams earn incentives for following school rules	Academics Using sound boxes or letter tiles for decoding instruction Behavior Check-in Check-Out System for receiving frequent feedback in meeting behavior goals	Academics Research-based reading and math programs such as SRA Reading Mastery and SRA Number Worlds Behavior Functional Behavior Assessment and Individualized Behavior Intervention Plan

Universal screening measures. Universal screening is the initial step in the MTSS/RTI process (Arden & Pentimonti, n.d.) and is used to identify students who are at

risk for learning problems (U.S. Department of Education, n.d.). Screening tools are usually administered three times per school year with scores being compared to grade level norming data (Parks, 2011). Parks (2011) defined universal screening as, "the process of administering quick, timed curriculum-based measures to a grade level or an entire school, to identify those who may be at risk for academic skill deficits in the areas of reading, math, writing, and spelling" (p. 6). In regard to screening, the Center on Response to Intervention (n.d.) articulated, "attention should focus on fidelity of implementation and selection of evidence-based tools, with consideration for cultural and linguistic responsiveness and recognition of student strengths" (para. 2).

One commonly used screening measure or curriculum-based measure is Dynamic Indicators of Basic Early Literacy Skills (Good & Kaminski, 2002). The term curriculum-based measure may be used interchangeably with a curriculum-based probe. Curriculum-based measures are used to monitor student progress in skill areas, whereas curriculum-based probes are timed and measure skill fluency (Parks, 2011). In a study conducted by Jenkins, Hudson, and Johnson (2007), students who were at risk on universal screening or benchmark measures when compared to the same grade peers were moved to a tier 2 plan with more intensive interventions and progress monitored regularly. The authors discovered that if universal screening measures are administered correctly, students can be moved to the correct tier (Jenkins et al., 2007).

Progress monitoring measures. Progress monitoring measures are essential to the RTI model. Progress monitoring data are critical in determining if instructional interventions are effective (Brown-Chidsey & Steege, 2010). Safer and Fleishman (as cited in Parks, 2011) stated, "Progress monitoring occurs when interventionists have used

curriculum based measurement probes to establish a baseline and then students are assessed periodically to determine their level of performance" (p. 7). Progress is calculated by comparing the student's anticipated rate of growth on local or national grade-level norms to their actual rate of learning (Fuchs, Fuchs, & Zumeta, 2008). Depending on the level of skill deficit, progress monitoring may occur daily, bi-weekly, weekly, bi-monthly, or monthly (Blaine, 2016), but best practice is to progress monitor weekly or bi-weekly (Fuchs & Fuchs, 2006).

To ensure effectiveness, Fuchs, Compton, Fuchs et al. (as cited in Dexter & Hughes, n.d.) maintained that "progress-monitoring measures must be available in alternate forms, comparable in difficulty and conceptualization, and representative of the performance desired at the end of the year" (para. 6). Utilizing data-based decision-making is necessary in determining tier placement and level of intervention (Positive Behavioral Interventions and Supports Technical Assistance Center, n.d.). Level of intervention in the problem-solving model is layered by tiers (Neumann, 2015).

Research-based instruction and intervention. Also referred to as evidence-based instruction and scientifically based instruction, research-based instruction is supported and validated by research studies (Alfonso & Flanagan, 2018; Appelbaum, 2009; Howard, 2009). NCLB mandated that scientifically based research should be the cornerstone of core instruction (Brown-Chidsey & Steege, 2010). In a synopsis completed by Hattie (2009), he inferred that explicit teaching strategies were more successful than learning based on problem-solving. The University of Oregon's Center for Teaching and Learning (as cited in Kovaleski et al., 2013, pp. 28-30) discerned the characteristics of research-based instruction to be:

1. Instructor models instructional tasks when appropriate;
2. Instructor provides explicit instruction;
3. Instructor engages students in meaningful interactions with language;
4. Instructor provides multiple opportunities for students to practice;
5. Instructor provides corrective feedback after initial student responses;
6. Instructor encourages student effort;
7. Students are engaged in the lesson during teacher-led instruction;
8. Students are engaged in the lesson during independent work; and
9. Students are successfully completing activities to high criterion levels of performance.

MTSS Framework

MTSS is a framework that is intended to identify struggling students early and provide interventions so they can catch up to their peers (Neumann, 2015). Batsche et al. (as cited in Positive Behavioral Interventions and Supports Technical Assistance Center, n.d.) defined MTSS as "the practice of providing high-quality instruction and interventions matched to student need, monitoring progress frequently to make decisions about changes in instruction or goals, and applying child response data to important educational decisions" (para. 2). The MTSS framework consists of universal screening measures for all students, progress monitoring of students who are considered to be at risk for failure, tiers of interventions that increase in rigor as students demonstrate insufficient progress, and a problem-solving or standard treatment approach to interventions (Fuchs & Fuchs, 2006; Glover, 2010). According to Fuchs and Fuchs (2006), the framework involves personalized assessment and intervention for individual

students, whereas with the standard treatment approach, interventions and strategies are determined ahead of time and students move along a succession and receive interventions at certain times.

The MTSS framework "promotes school improvement through engaging, research-based academics, and behavioral practices" (North Carolina Department of Public Instruction, n.d., p. 1). The North Carolina Department of Public Instruction (n.d.) identified the critical components of the MTSS framework as "leadership, building the capacity for implementation, communication, and collaboration, data-based problem solving, 3-tiered instructional/intervention model, data evaluation" (para. 3).

Variations to the multi-tiered structure for SLD identification. Until the reauthorization of IDEA in 2004, eligibility for special education services in the area of SLD was predominantly determined using the aptitude-achievement discrepancy model (Appelbaum, 2009; Kovaleski et al., 2013); however, other methods for SLD identification included the low achievement method and the patterns of strengths and weaknesses approach (Alfonso & Flanagan, 2018; Phipps & Beaujean, 2016). Also referred to as the "wait to fail" model (Burns & Riley-Tillman, 2009, p. 1), students are identified as having an SLD with the aptitude-achievement discrepancy model when a significant discrepancy exists between aptitude and achievement scores (Alfonso & Flanagan, 2018).

There is discontentment with the aptitude-achievement discrepancy model for determining SLDs (Fuchs & Fuchs, 2006). A notable concern of the aptitude-achievement discrepancy model is that students are not identified as having a learning disability until they are older, when the discrepancy is too striking to catch up (Kovaleski

et al., 2013). The discrepancy model has been denounced as lacking a conceptual framework, which has led to states and districts having different standards for SLD eligibility (Lyon, 1987; Reschly & Hosp, 2004). A complaint of the aptitude-achievement discrepancy model is the inconsistency between states about what the discrepancy should be for special education services (Reschly & Hosp, 2004). Jenkins et al. (2013) found that the MTSS framework/RTI model is implemented differently between states, which may cause problems with the generalization of information. However, Bender and Shores (2007) insisted that the MTSS framework/RTI model reduces the inconsistency between states and districts and lessens the number of students identified as having an SLD (Bender & Shores, 2007).

The pattern of strengths and weaknesses approach involved "finding data that show academic deficits are related to a discrepancy between strengths and weaknesses in the student's cognitive processing as measured by standardized tests of cognitive ability" (Phipps & Beaujean, 2016, p. 20). Proponents of this method insisted that cognitive processing abilities are essential in determining an SLD; however, the prevailing problem with the pattern of strengths and weaknesses approach is that it is difficult to differentiate between a weakness and disability based solely on test scores (Phipps & Beaujean, 2016, p. 20).

The low achievement method of identifying SLDs is based strictly upon the low achievement of the student, "so that anyone scoring below the 25th percentile may belong to an SLD subgroup" (Alfonso & Flanagan, 2018, p. 228). This model does not completely meet the criteria established in IDEA (2004), as low achievement is necessary for identifying a learning disability, but low achievement is not the only factor (Fletcher,

n.d.). The four criteria that are currently set forth for the identification of SLD include

1. Failure to meet age- or grade-level state standards in one or more of the following areas: oral expression, listening comprehension, written expression, basic reading, reading fluency, reading comprehension, math calculation, math problem-solving.
2. Discrepancy: pattern of strengths and weaknesses, relative to intellectual ability as defined by a severe discrepancy between intellectual ability and achievement, or relative to age or grade or RTI's lack of progress in response to scientifically-based instruction.
3. Rule out vision, hearing, or motor problems; intellectual disability; emotional disturbance; cultural and/or environmental issues; limited English proficiency.
4. Rule out lack of instruction by documenting appropriate instruction by qualified personnel, repeated assessments. (Kovaleski et al., 2013, p. 16)

Alfonso and Flanagan (2018) asserted that the aptitude-achievement discrepancy model, low achievement model, and the patterns of strengths and weaknesses approach are all components that are imbedded in the identification process.

Strengths and limitations of MTSS. The MTSS framework is a general education initiative with the goal being "the prevention and remediation of academic and behavioral difficulties through effective classroom and supplemental instruction" (Alfonso & Flanagan, 2018, p. 236). There are strengths and limitations to consider when discussing the framework.

Struggling students are immediately provided with needed supports before skill deficits have to widen to meet discrepancy requirements. Students do not have to "wait

to fail" (Burns & Riley-Tillman, 2009, p. 1) before receiving interventions in the areas of skill deficits (Parks, 2011). MTSS is a proactive approach with data being used in making instructional decisions (Allington, 2009), which lends itself to the flexibility of the framework so changes can be made based upon instructional response (Blaine, 2016). Instructional decisions are based upon multiple forms of data (Alfonso & Flanagan, 2018). The district uses universal screening tools for establishing a baseline for all students. Progress monitoring is then used for making collaborative decisions for at-risk students and providing evidence for interventions.

Students are less likely to be classified as having a disability as quickly with the MTSS framework (Eichorn, 2009). Fuchs and Fuchs (2006) maintained that evidence-based instruction, sound teaching practices, and progress monitoring reduces unnecessary referrals for special education evaluations. NCLB established high standards as part of the RTI model, which is a subcomponent of the MTSS framework (Collins, 2013).

There are potential limitations with the MTSS framework. A drawback of the approach is unreliability of decisions based on progress monitoring data (Alfonso & Flanagan, 2018). Progress monitoring data must be collected over an adequate amount of time with a reliable instrument for reliability to increase (Brown-Chidsey & Steege, 2010). VanDerHeyden and Burns (2010) asserted that little agreement exists in how long interventions should occur and how long progress monitoring should be collected.

Implementation integrity is another drawback of the approach (Noell & Gansle, 2006). The accuracy and fidelity to which interventions are implemented is critical to implementation success of the framework (Brown-Chidsey & Steege, 2010; Dougherty & McKenna, 2013; Kovaleski et al., 2013). Prior to determining that a student failed to

respond to an intervention, schools must ensure that interventions were implemented accurately (Kovaleski et al., 2013).

The eligibility guidelines for the category of SLD are changing, so North Carolina school districts will be required to use the MTSS framework/RTI model in the identification process beginning July 1, 2020 (North Carolina Department of Public Instruction, 2016). According to the National Association of Special Education Teachers (n.d.), the goal of the MTSS framework is to

> ensure that quality instruction, good teaching practices, differentiated instruction and remedial opportunities are available in general education, and that special education is provided for students with disabilities who require more specialized services than what can be provided in general education. (p. 12)

A study conducted by Maniglia (2017) discovered that educator perceptions about the MTSS framework are critical to the instructional fidelity of interventions. After the implementation of the framework, teachers noted that they become frustrated with the lack of resources, planning time, and professional development, which in turn led to them inconsistently adhering to the fidelity of instructional practices (Maniglia, 2017). Inconsistently adhering to instructional fidelity often leads to inconsistent student performance (Maniglia, 2017).

Effective July 1, 2020, special education evaluations for SLDs must include evidence-based interventions and progress monitoring as part of the MTSS framework (North Carolina Department of Public Instruction, 2016). Since these changes were announced February 5, 2016, educators have been required to change their way of thinking about special education eligibility to meet state mandates. Change that is

mandated gives educators direction instead of requesting their input. Bailey (2000) asserted, “the disjuncture between the assumptions embedded in mandated reform and teachers’ realities can marginalize teachers” (p. 116) and change their perceptions about pending change. To become routine and successful, processes must be established so individuals can interact with and discover value in change instead of the change being mandated (Fullan, 2001).

According to the assistant special education director at the district under study, many educators have accepted inclusive education; however, some teachers continue to desire for students with disabilities to be educated in more restrictive settings (L. Carroll, personal communication, July 24, 2019). Fuller’s stages of concern model suggested that unrelated concerns, self-concerns, task concerns, and impact concerns must be understood and addressed before change can be effective (Hall & Hord, 2015). According to Hall and Hord (2015), “No matter how promising and wonderful the innovation, no matter how strong the support, implementers will still have moments of self-doubt about whether they can and even whether they want to succeed with the new approach” (p. 80).

The assistant special education director (personal communication, April 12, 2019) at the district under study also asserted that there are educators who continue to have misconceptions about specific disabilities and do not feel capable of instructing students with disabilities, which will impact teacher perceptions about the eligibility process. In reference to having a positive attitude about change, Couros (2015) asserted, “People challenge others to think ‘outside the box,’ when we really need to think about how we can become innovative inside of the box” (p. 226). This study will provide needed

information about the impact of the MTSS framework on special education referrals and special education eligibility in the category of SLD as well as the perceptions of educators regarding the MTSS framework.

Chapter 3: Methodology

Introduction

The purpose of this study was to examine the effects of the MTSS framework on special education referral rates and the eligibility of SLD at two schools. Due to concerns nationally pertaining to the over identification of students with SLDs, RTI was added to the IDEA reauthorization (IDEA, 2004). The RTI model later led to the development of the MTSS framework, which is a preventative model that emphasizes continuous progress monitoring, instructional interventions, and data-based decision-making in improving student outcomes (Positive Behavioral Interventions and Supports Technical Assistance Center, n.d.).

The RTI model falls under the MTSS framework umbrella and assigns students to tiers that increase in intensity and duration based on their lack of responsiveness to the instruction at a prior level (Schaffer, 2017). The MTSS framework and RTI model work together, and the terms are sometimes used interchangeably (Edmentum, 2014). As previously stated, North Carolina, along with other states, is shifting toward using the MTSS framework as a part of a comprehensive evaluation when determining if a student has an SLD (North Carolina Department of Public Instruction, 2015).

At the focus sites, the school-based MTSS data teams meet on a weekly basis. The purpose of the school-based teams is to guarantee that the MTSS framework is implemented with fidelity at the sites. The teams work together to design and ensure the implementation of interventions for individual students who demonstrate difficulty in an area and require additional supports to the core curriculum to be successful. Historical special education referral and eligibility rates from the target sites are not discussed at

these meetings. The school-based teams also work to maintain communication with stakeholders to ensure increased student improvement. Stakeholders include school staff, parents, and families. Members of the school-based teams are the principal, assistant principal, school counselor, school psychologist, general education teachers, content area experts (as needed), and special area teachers (as needed). At the time of the study, all members of the district and school-based MTSS data teams received training at the district and state levels, focusing on the implementation of the MTSS framework.

According to the National Research Center on Learning Disabilities (2006), the RTI model is "a multi-tiered model of educational service delivery in which each tier represents increasingly intense services that are associated with increasing levels of learner needs" (p. 3.3). Tier 1 is the core curriculum and is for all students (Ehren et al., 2009). The tier 2 level consists of core instruction in addition to research-based interventions that target a specific skill within a small group setting (Howard, 2009). Tier 3 interventions are customized to target student needs and provided by a highly qualified teacher within an individualized or smaller group setting (Howard, 2009). After 8-10 weeks of instruction at the tier 3 level, individual student data are analyzed by the problem-solving team to determine if adequate progress is being achieved or if instructional changes need to be made (Howard, 2009).

Research Design

This research study used the explanatory sequential mixed methods design. This research design occurs in two phases where quantitative data are collected initially, followed by qualitative data collection (Creswell & Creswell, 2018). Figure 5 displays a visual representation of the explanatory sequential mixed methods design.

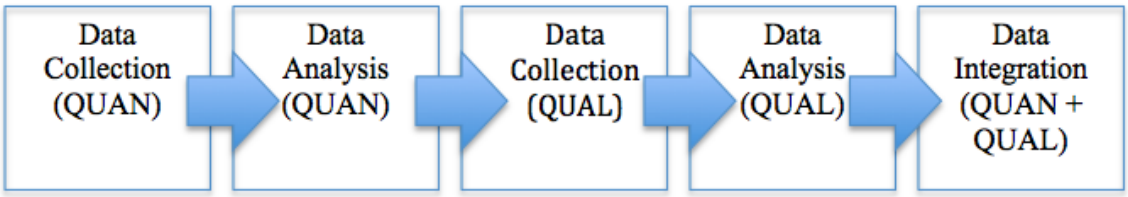

Figure 5. Visual Representation of the Explanatory Sequential Mixed Methods Design.

The reasoning behind the explanatory sequential mixed methods design is to utilize the qualitative data in further analyzing the quantitative data (Creswell & Creswell, 2018). According to Creswell and Creswell (2018), "the quantitative and qualitative databases are analyzed separately in this approach. Then, the research combines the two databases by the form of integration called connecting the quantitative results to the qualitative data collection" (p. 222).

The primary strength of mixed-methods research is that the flaws of either quantitative or qualitative research can be counteracted by the strengths of the other method (Creswell & Creswell, 2018). A mixed methods design also helps explain unexpected results, outlying situations, and group characteristics (Creswell & Creswell, 2018). However, mixed-methods research is time intensive and requires significant data collection (Creswell & Creswell, 2018).

The dependent variable changes as a result of the independent variable. The independent variable for the first two questions was the MTSS framework. The dependent variable for the first research question was referral rates for special education eligibility, whereas the dependent variable for the second question was the rate of students eligible for special education services in the area of SLD. For the third research question, educator perceptions related to their experiences with implementation of the

MTSS framework and the focus group questions were qualitatively analyzed. Since descriptive statistics were used to analyze the quantitative data, hypotheses statements were not utilized in this study. Laerd Statistics (2018) declared that hypotheses are not used with descriptive statistics because conclusions cannot be made beyond the data that are being analyzed. The study was directed by the following research questions:

1. What effect does the MTSS framework have on referral rates for special education eligibility?
2. What effect does the MTSS framework have on the rate of students eligible for special education services in the area of SLD?
3. What are the perceptions of educators about the MTSS framework in determining special education identification?

Role of the Researcher

The researcher is employed within the district as an exceptional children compliance manager and has served in that position for 5 years. Prior to serving in the current capacity, the researcher served as a special education teacher for 13 years. The researcher obtained archival data pertaining to special education referrals and SLD eligibility from the district's special education data manager. After collecting and analyzing quantitative data, the researcher conducted focus groups to further analyze educator perceptions related to the impact of the MTSS framework. The researcher integrated quantitative and qualitative data after the second phase of the research design was completed. The data for the research study was collected after the researcher received permission from Gardner-Webb University's Institutional Review Board. The candidate received permission to conduct research within the district from the

superintendent. The information from this study will be valuable to the district in determining how effective the MTSS framework is in decreasing special education referrals and the identification of students as having an SLD.

Purpose of the Study

The purpose of this explanatory sequential mixed methods design was to examine the effect of the MTSS framework on special education referral rates and the eligibility of special education services in the area of SLD at two sites within a North Carolina school district. Researchers have reported a decrease in the number of special education referrals and placements due to the implementation of the RTI model, which is a component of the MTSS framework (Callender, 2007; VanDerHeyden, Witt, & Gilbertson, 2007). In studies conducted by Jensen (2009) and Rogers (2010), there was a decline in the number of special education evaluations with the RTI model; however, Vaughn and Fuchs (2003) disagreed with the connection between the RTI model and the decrease in special education referrals.

Significance of the Study

To establish a consistent process for identifying students with an SLD and prepare for the early identification of students who are struggling academically, the North Carolina Department of Education requires that all school districts utilize responsiveness to scientific research-based instruction and intervention through the MTSS framework as a component for a comprehensive evaluation by July 1, 2020 (Loeser, 2018). This research contributes to the school district and individual schools by providing information about changes in the percentage of student referrals and percentage of students determined eligible for special education services over time with the MTSS

framework.

In addition to aggregate data, disaggregate data were collected to analyze the gender and race of those students who were referred and determined eligible for special education services in the area of SLD. While the state and district do not have a disproportionate representation of racial and ethnic groups in special education and in specific disability categories that is the result of inappropriate identification at this time, it is important for problem-solving teams to make the discussion of achievement gap data a common practice at the school level (North Carolina Department of Public Instruction, 2019). The MTSS framework has the potential to target inequity in special education by enhancing instructional opportunities based on individual student need; however, outcomes are dependent on how the framework is implemented at the local level (Kramarczuk Voulgarides, Fergus, & King Thorius, 2017).

Participants

Focus group participants consisted of educators who worked at the two target schools. Stratified sampling was used with each school population being divided up into smaller groups. At each school, there was a focus group of general education teachers consisting of one teacher from each grade level and a focus group of tier 3 interventionists. In addition, special education teachers at each school were also interviewed using the same questions that were used during the focus groups. Due to the small number of interventionists and special education teachers at each school, all were invited to participate in the study.

The researcher sent an email to each grade level of teachers asking for voluntary participation for the study as well as to all special education teachers and interventionists

(Appendix A). The candidate telephoned potential participants to confirm interest and availability for the focus groups and interviews, after individuals volunteered for the study. A written confirmation (Appendix B) was emailed to each participant within a couple of days of speaking to them by telephone, and a reminder email was sent to them within 2 days prior to the focus group sessions and interviews.

Focus groups provided a deeper understanding of the beliefs and experiences that participants held about the MTSS framework. Shirley and Hargreaves (as cited by Greenfield et al., 2010) articulated that teachers "are no longer the drivers of reform, but the driven" (p. 48). The authors also suggested that teacher perception is critical in the success of education reform movements, but these perceptions are rarely documented (Greenfield et al., 2010). This study provided an outlet for the perceptions of educators who implement the MTSS framework within the two schools.

Setting

The school district is located in the piedmont of southwestern North Carolina and is a district with over 14,000 students. According to the assistant special education director (personal communication, August 1, 2018), within the district, slightly more than 15% of the total student population receive special education services, larger than North Carolina's state cap of 12.75%. Special education services are offered to eligible students based on guidelines found in IDEA.

The district is comprised of a small city and surrounding smaller suburban towns. The two schools selected for the research study had been implementing the MTSS framework since the beginning of the 2009-2010 school year. Of the 29 schools in the district, Schools A and B have a reputation within the district of successfully

implementing the MTSS framework. The schools of focus in the study were the first pilot schools chosen to implement the framework when it was initially implemented at the beginning of the 2009-2010 school year. School A has 381 students and is located within the city limits of a moderately growing town, and School B has 525 students and is located in a rural, university community within the district. School A serves pre-k to fourth grade, whereas School B serves pre-k to fifth grade.

Achievement gaps are broadly defined, occurring when one group of students performs better than another group of students, and the difference is statistically significant (National Education Association, n.d.; Porter, 2020). Achievement gaps within a school were determined by an analysis of school performance data. Dauter and Olivieri (2016) maintained that the achievement gaps in North Carolina schools are widening at an accelerated rate. Table 2 summarizes the school performance data of students in testing grades at Schools A and B for the 2017-2018 school year. The data for percent proficient include levels 3, 4, and 5. Level 3 denotes a sufficient understanding of grade-level material, level 4 denotes a thorough understanding of grade-level material, and level 5 represents a comprehensive understanding of grade-level material.

Table 2

School Performance Data

	Subgroup Proficiency			
	Reading		Math	
	Elementary A	Elementary B	Elementary A	Elementary B
School	40.0	49.4	63.1	67.0
Asian	0	20.0	0	20.0
Black	26.1	27.9	56.5	45.9
Economically Disadvantaged	25.0	36.0	52.3	53.1
English Language Learners	50.0	37.5	83.3	62.5
Hispanic	40.0	44.0	80.0	68
Multi-Racial	35.7	55.6	50.0	83.3
Students with Disabilities	5.3	6.4	5.3	23.4
White	57.1	56.1	69.8	71.5

Elementary A's end-of-grade test proficiency data for the 2017-2018 school year indicated that an achievement gap existed between Black and White subgroups in both reading and mathematics. In the area of mathematics, achievement gaps were also present between Hispanic and multiracial subgroups. The percent proficient for the area of reading at Elementary A reflected an achievement gap existed between the Hispanic and Black subgroups. In both reading and mathematics, an achievement gap existed between the students with disabilities subgroup and the economically disadvantaged subgroup. An achievement gap for percent proficient in reading and mathematics for the school also existed between the students with disabilities and economically disadvantaged subgroups.

Elementary B's end-of-grade test proficiency data for the 2017-2018 school year

indicated that an achievement gap existed between the students with disabilities and the economically disadvantaged subgroups as well as in percent proficient for the school in the area of mathematics. Data for the area of mathematics indicated that an achievement gap existed between the English language learners subgroup and percent proficient for Elementary B. In the area of reading, an achievement gap existed between Black and White subgroups as well as between Hispanic, Asian subgroups and White subgroups at Elementary B. An achievement gap also existed between the multiracial and White subgroups at Elementary B.

Ethical Considerations

When selecting and including focus group participants, the researcher ensured that all information about the purpose and the use of participant contributions was provided to them. Due to the sensitivity and confidentiality of information, the moderator of the group, who is also the researcher, explained to participants that all contributions would be shared with the group. All participants were strongly encouraged by the facilitator to maintain confidentiality in what they heard during focus group meetings. The researcher ensured that all focus group data were kept confidential. All participants completed a confidentiality agreement and consent form.

The quantitative data for this study were taken from archival data of students who were referred for special education evaluations as well as students who were identified as being eligible for special education services in the area of SLD. When received by the researcher, the secondary data were anonymous and devoid of any identifying information except for school numbers. The researcher ensured that data in the form of hard copies were maintained in a locked cabinet and soft copies of data were kept as

encrypted files in computers.

Quantitative Data Sources, Collection, and Analysis

Archival quantitative data indicating the number of special education referrals from 2009-2010 to the 2017-2018 school year were analyzed and compared, in addition to data indicating the number of students determined eligible for special education services in the area of SLD. Quantitative data were analyzed to determine if there was an increase or decrease in special education referrals and students eligible for the category of SLD after implementation of the MTSS framework. Descriptive statistics were used to summarize the aggregate and disaggregate data so conclusions could be reached about the number of special education referrals and students identified as having an SLD from 2009-2010 to the 2017-2018 school year at the target schools. Specifically, descriptive statistics presented the quantitative descriptions in a manageable form. The school years included in the study were 2009-2010, 2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, and 2017-2018.

The percentage of students referred for special education evaluations in comparison to total school enrollment per year was calculated and analyzed for each school. Disaggregated data were also analyzed to determine which subgroups had the most special education referrals each school year. The subgroup data analyzed and included in the study were Asian, Black, Hispanic, multi-racial, White, male, and female. In analyzing data, the number of referred students were divided by the total school population and also the total number of referred students.

According to the North Carolina Department of Public Instruction (2018b), once the school receives a written referral, the Local Education Agency (LEA) must provide a

written response to the child's parent.

> The response shall include either an explanation of reasons the LEA will not pursue the concerns or a date for a meeting in which the LEA and parent will review existing data and determine whether a referral for consideration of eligibility for special education is necessary. (North Carolina Department of Public Instruction, 2018b, p. 27)

The percentage of students determined eligible for special education services in the area of SLD in comparison to total school enrollment per year was also calculated and analyzed for each school. Disaggregated data were also analyzed to determine which subgroups had the most students identified as SLD for the school year. To examine how the percentage of students eligible for special education services in the area of SLD compared to the total school enrollment, percentages were calculated using the proportion to percent method with the ratio of students identified as learning disabled to the total student enrollment for each school year. In determining the percentage of students eligible of those referred for each school, the number of students eligible was divided by the number referred.

Reliability. Creswell and Creswell (2018) asserted that qualitative reliability "indicates that the researcher's approach is consistent across different researchers and among different projects" (p. 199). To ensure the reliability of the information obtained from the focus groups and interviews, the sessions were recorded by the moderator, and the assistant moderator took notes during the meetings. The assistant moderator also went behind the moderator and double-checked transcripts to ensure there were no obvious mistakes.

Validity. Creswell and Creswell (2018) suggested using multiple validity strategies to convey the accuracy of the findings to the reader. One strategy used to ensure validity of the information gained from the focus groups was member checking. The researcher allowed the participants of the focus groups and interviews to review and comment on the significant findings as a follow-up to the sessions. The researcher also used peer debriefing as another validity strategy. Following the focus group sessions and interviews, a peer who was not involved with the focus groups or interviews reviewed the information collected and asked questions that arose from reading the qualitative data (Creswell & Creswell, 2018). Finally, to show that the researcher was unbiased, information that contradicted the viewpoint of the theme was included in the literature review chapter (Creswell & Creswell, 2018).

Qualitative Data Sources, Collection, and Analysis

To collect qualitative data, focus groups and interviews were conducted with educators at each school to acquire information about the impact of the MTSS framework on special education referrals and special education identification, specifically SLD. Glickman, Gordon, and Ross-Gordon (2018) recommended focused questions for the purpose of acquiring qualitative data about general topics. Two focus groups occurred at each school. One focus group included general education teachers, and the other focus group consisted of interventionists. School administration were not included in focus groups, as participants may have been concerned about fully disclosing their thoughts and ideas if the principal or assistant principal was a part of the group (Eliot & Associates, 2005). The special education teachers at each school were interviewed individually with the same questions that were used during the focus group sessions.

The researcher emailed all general education teachers from each grade level asking for volunteers (Appendix A). One participant from each grade level participated in the focus group. When more than one teacher from a grade level volunteered, the participant was selected according to who emailed the researcher first. The researcher contacted each participant by telephone to ensure interest and availability for the scheduled focus group session and interviews. The researcher then sent a written confirmation to each participant within 2 days of speaking to them by telephone (Appendix B). An email reminder was sent to each participant 2 days prior to the focus group session and interviews.

Each focus group session lasted approximately 1 hour in length. At the beginning of the focus group sessions and interviews, the researcher acquired written consent from each participant (Appendix C). Demographic data were also collected from participants with the Focus Group Participant Demographic Survey (Appendix D). The analysis of demographic data provided valuable insight into the organization's population and furthermore provided insight into what services and strategies need to be offered for increasing success (Eng, 2013).

At the beginning of each session, the researcher used the script from the Focus Group Protocol (Appendix E) to welcome participants, remind them of the purpose of the meeting, reinforce the ground rules, and encourage confidentiality of the information shared during the meeting (Eliot & Associates, 2005). During the sessions, the researcher remained neutral and listened attentively to participants discuss the impact of the MTSS framework on special education referrals and special education identification, specifically SLD at their schools.

During focus group discussions, participants provided commentary related to the impact of the MTSS framework at the specific schools. Pertaining to adult learning strategies, Knowles (as cited in Davis, 2013) argued, “When adults are able to collaboratively talk about classroom topics with their colleagues, they engage in activities that are more reflective of "real-world" problem-solving events within those fields, fulfilling adult learners' need to find relevance in their studies” (p. 70). Table 3 presents the questions that guided focus group participant discussion.

Table 3

Focus Group Questions

Focus Group Questions
1. Tell me about MTSS. What is MTSS? How does it work at your school?
2. Tell me about the referral process? How can it be improved?
3. In your experience, what impact does the referral process have on student placement for special education services?
4. What is Response to Intervention (RTI)? How does it work at your school? Is RTI successful at your school?
5. How does your knowledge of RTI impact instruction within your classroom?
6. What questions do you have about MTSS, RTI, or the special education referral process?

Serving as the moderator, the researcher facilitated discussion and created an environment that encouraged group discussion and different perspectives. An assistant moderator provided support by assisting with room arrangement, notetaking which included nonverbal body language, and debriefing with the researcher after each focus group session (Eliot & Associates, 2005). The assistant moderator works out of the

district's central office and did not know any of the focus group or interview participants. With her position focusing on the district's secondary schools, the assistant moderator's knowledge of the MTSS framework is very general. The assistant moderator took notes, and the researcher recorded the sessions to ensure that member comments were correctly documented. To ensure that group members understood that no connection would be made between individual participants and comments, the researcher explained that the notes were taken and sessions recorded for the purpose of correct documentation. Ground rules were constructed by the researcher ahead of time for the sake of time. To remain on task and to ensure that the same things were said at the sessions for both sites, the researcher followed the scripted protocol during the focus group session.

Immediately following focus groups and interviews, the researcher and assistant moderator debriefed while thoughts continued to be in their minds. Focus group and interview discussion was meticulously analyzed to contribute information on how the MTSS framework can be improved. Data were organized by concepts, themes, terminology, and phrases with codes being assigned to those pieces of data (Creswell & Creswell, 2018). While organizing the data, the researcher looked for patterns, connections, and relationships that developed within the data (Creswell & Creswell, 2018). The researcher combined related pieces of data and then added important quotes from the transcript. Qualitative data gathered from focus groups were analyzed using a priori codes. The a priori codes were determined prior to data analysis and based on theory (Billups, n.d.). The a priori codes for the study were RTI, teamwork, professional development, school/community collaboration, parental action, curriculum design, and PBIS. The a priori codes are subcomponents of the MTSS framework (Positive

Behavioral Interventions and Supports Technical Assistance Center, n.d.). These a priori codes are displayed in the visual representation of the MTSS framework umbrella in Figure 3.

The raw data were broken down into meaningful units with the audio data being changed into transcripts. The researcher then read through the transcripts several times, allowing for deeper reflection and note writing in the margins. Chunking was then used to categorize raw data into clusters with color coding. By going through the process of reducing the data multiple times from chunks to clusters and codes, the researcher ensured that raw data were usable and the a priori codes were exclusive from one another (Creswell & Creswell, 2018). Themes that emerged from the data were used to answer the research questions (Creswell & Creswell, 2018).

The final step in the explanatory sequential mixed methods approach is the third form of interpretation, which is meant to provide a deeper look into the quantitative data (Creswell & Creswell, 2018). With this mixed methods design, the qualitative data are analyzed and used to inform the quantitative data (Creswell & Creswell, 2018). Table 4 displays the methods table for the study. The researcher and assistant moderator met back with the focus group and interview participants via FaceTime to reexamine the quantitative and qualitative data.

Table 4

Methods Table

Research Question	Instruments	Methodology Type	Data Collected	Methods of Analysis
What effect does the MTSS framework have on referral rates for special education eligibility?	Archival data maintained by the district's special education data manager	Quantitative	Number of students that were referred for special education evaluation at each school from 2009 to 2018	Descriptive Statistics: Proportion to Percent Method: (Number Referrals divided by Total School Enrollment) and (number referred students in subgroup divided by total school population and total number referred students)
What effect does the MTSS framework have on the rate of students eligible for special education services in the area of SLD?	Archival data maintained by the district's special education data manager	Quantitative	Number of students that were determined to be eligible for special education services in the area of SLD at each site from 2009 to 2018	Descriptive Statistics: Proportion to Percent Method: (number identified SLD divided by total school enrollment) and (number of eligible students divided by total students eligible and number of eligible students referred)
What are the perceptions of teachers and administrators about the MTSS framework in determining special education identification?	Focus Groups (General Education Teachers and Interventionists), Interviews (Special Education Teachers)	Qualitative	Teacher perceptions about using the MTSS framework in determining special education eligibility	A Priori Coding

Limitations

The intent of this study was to examine the impact of the MTSS framework on special education referral rates and the identification of special education services in the area of SLD. The MTSS framework was implemented within the district at the beginning of the 2009-2010 school year. Data on the number of referrals for special education services and the identification of students with SLDs per school were not collected prior to the 2009-2010 school year. The lack of baseline data was a limitation of this study.

Delimitations

The population chosen for this study was limited to two elementary schools within a district in the piedmont of North Carolina, thus limiting the ability to generalize findings to other geographic locations.

Summary

This study was intended to investigate the effect of the MTSS framework on special education referral rates and eligibility for special education services in the area of SLD as well as the perception of educators about the MTSS framework in determining special education identification. The North Carolina Department of Public Instruction (2015) requires that the RTI model be the singular method of identifying students for SLD, beginning July 1, 2020.

If implemented correctly, the MTSS framework has the capacity to reduce the number of students referred for special education testing, making special education services more efficient and directing them at students who require specially designed instruction in order to make educational progress. This study advances the constructiveness of the MTSS framework in examining the number of students referred

for special education evaluations and examining the number of students identified as SLD.

Chapter 4: Results

Introduction

The purpose of this explanatory sequential mixed methods design study was to examine the effect of the MTSS framework on special education referral rates and the eligibility of special education services in the area of SLD at two schools within a school district in the southeast. The study also investigated educator perceptions of the impact of the MTSS framework on special education referral rates and eligibility. Archival quantitative data focusing on the number of special education referrals from 2009-2010 to the 2017-2018 school year were examined as well as the data showing the number of students determined eligible for special education services in the area of SLD. Descriptive statistics were used to summarize and display the quantitative data in a manageable format.

Aggregate and disaggregated data were examined to determine if there was an upward or downward trend in special education referrals and students eligible for the category of SLD after implementation of the MTSS framework. Descriptive statistics were used to display the data in a manageable form. The findings of this study are limited by small sample sizes. Etz and Arroyo (2015) maintained that a sample size of less than 30 limits the generalizability of the study. Small sample sizes lead to the misinterpretation of data (Bland, 2008).

Specifically, the aggregate data were analyzed to establish the percentage of students referred for special education evaluations in comparison to total school enrollment from 2009-2010 to the 2017-2018 school year. Disaggregated data focused on the race and gender of students. Disaggregated data were analyzed to determine

which subgroups had the most special education referrals each school year. In analyzing subgroup data, the number of referred students was divided by the total school population and also the total number of referred students. Disaggregated data were then analyzed to determine which subgroups had the most students identified as SLD per school year. To examine how the percentage of students eligible for special education services in the area of SLD compared to the total school enrollment, the percentages were calculated using the proportion to percent method with number of referred students divided by the total school population. The number of referred students from the subgroup was also divided by the total number of referred students.

Qualitative data about the impact of the MTSS framework on special education referrals and special education identification in the area of SLD was obtained from educators. At each school, one focus group was conducted with general education teachers, one focus group was conducted with interventionists, and individual interviews were held with the special education teachers. To ensure that educators would speak freely about their thoughts and ideas, school administration did not participate in the focus groups or interviews.

MTSS Impact on Special Education Referral Rates

Research Question 1 was designed to investigate the effect of the MTSS framework on special education referral rates at each school. To examine how the number of special education referrals compared to the total school enrollment, percentages were calculated using the proportion to percent method with the number of special education referrals being divided by the total student enrollment for each school year.

The percentages of student referrals at each school from 2009-2010 to the 2017-2018 school year are presented in Table 5.

Table 5

Percentages of Special Education Referrals for Schools A and B

	Number of Referrals School A	Total Enrollment School A	Percentage of Referrals School A	Number of Referrals School B	Total Enrollment School B	Percentage of Referrals School B
2009-2010	11	329	3.3	17	679	2.5
2010-2011	15	311	4.8	28	681	4.1
2011-2012	16	390	4.1	25	664	3.7
2012-2013	17	385	4.4	28	640	4.3
2013-2014	26	387	6.7	29	664	4.3
2014-2015	24	384	6.2	23	633	4.7
2015-2016	17	362	4.7	29	614	3.6
2016-2017	22	376	5.8	26	576	4.5
2017-2018	20	381	5.2	28	574	4.8

There was an increase in the percentage of special education referrals at Schools A and B from 2009-2010 to the 2017-2018 school year; however, the percentages do not show a consistent upward trend. The data are inconclusive and have an upward trend with odd spikes and dips. The highest percentage of referrals at School A was during the 2013-2014 school year with 6.7%, whereas the largest percentage in referrals at School B was during the 2014-2015 school year with 4.7%. The general trend in the data mirrored at each school during the 2009-2010, 2010-2011, 2011-2012, 2012-2013, 2015-2016, and 2016-2017 school years.

The special education referrals for Schools A and B from 2009-2010 to the 2017-2018 school year are presented in a line graph in Figure 6.

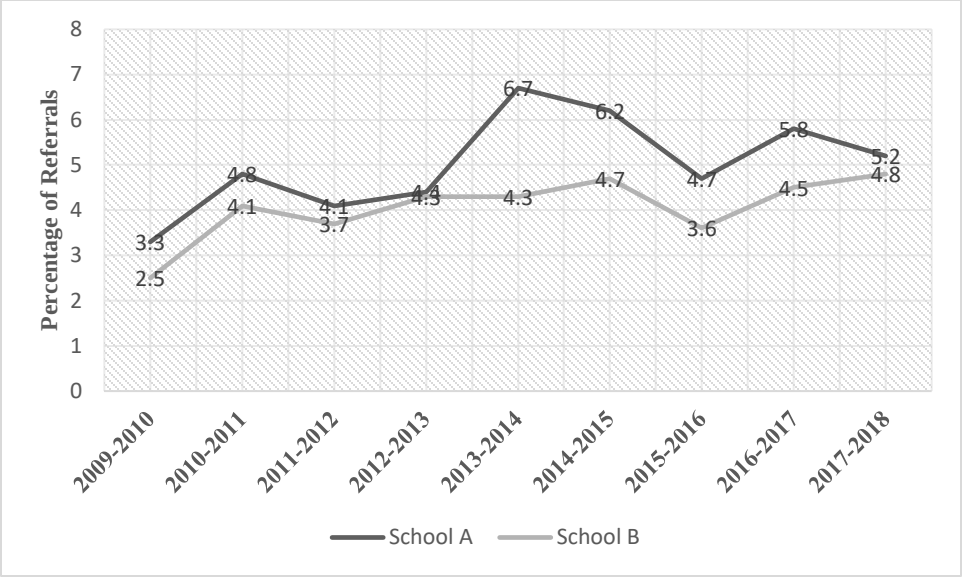

Figure 6. Special Education Referrals for Schools A and B.

The data were further disaggregated into subgroups consisting of Asian, Black, Hispanic, multi-racial, White, male, and female. These subgroups were selected based on the demographics of the two studied schools. To examine how the percentage of students referred for special education evaluations compared to the total school enrollment, the percentages were calculated using the proportion to percent method with number of referred students divided by the total school population. The number of referred students from the subgroup was also divided by the total number of referred students.

The data for the Asian subgroup at School A from 2009-2010 to the 2017-2018 school year is presented in Table 6.

Table 6

Number of Referred Asian Students – School A

	Number of Students in Subgroup	Total School Population	Percentage of Subgroup in School	Number of Subgroup Referred	Total of Referred Students	Percentage of Referred Students in Subgroup
2009-2010	5	329	1.5	0	11	0
2010-2011	4	311	1.2	1	15	6.7
2011-2012	9	390	2.3	0	16	0
2012-2013	4	385	1.0	0	17	0
2013-2014	2	387	0.5	0	27	0
2014-2015	2	384	0.5	0	24	0
2015-2016	2	362	0.5	1	17	5.9
2016-2017	4	376	1.0	0	22	0
2017-2018	4	381	1.0	0	20	0

During the 2009-2010 school year, 1.5% of the school population was Asian; however, none of those students were referred for a special education evaluation. For referrals to be equitable, the percentage of the subgroup in the total school population and the percentage of referred students in the subgroup would be reasonably close. In each year of the study, a discrepancy existed between the percentage of Asian students in the total school and the percentage of Asian students referred in comparison to the total number of referrals. The small sample size for the Asian subgroup led to the data being misleading, and conclusions could not be drawn. The analysis of data for the Black subgroup at School A from 2009-2010 to the 2017-2018 school year is presented in Table 7.

Table 7

Number of Referred Black Students – School A

	Number of Students In Subgroup	Total School Population	Percentage of Subgroup in School	Number of Subgroup Referred	Total of Referred Students	Percentage of Referred Students in Subgroup
2009-2010	128	329	38.9	5	11	45.5
2010-2011	118	311	37.9	4	15	26.7
2011-2012	136	390	34.8	6	16	37.5
2012-2013	161	385	41.8	7	17	41.2
2013-2014	175	387	45.2	16	27	59.3
2014-2015	136	384	35.4	11	24	45.8
2015-2016	144	362	39.7	11	17	64.7
2016-2017	154	376	40.9	7	22	31.8
2017-2018	159	381	41.7	6	20	30.0

To determine if there was an inequity in the referral of Black students at School A, the percentage was calculated using the proportion to percent method with number of referred students divided by the total school population. The number of referred students from the subgroup was also divided by the total number of referred students. A comparison of the percentage of the Black students within the school and the percentage of Black students referred is displayed in Figure 7.

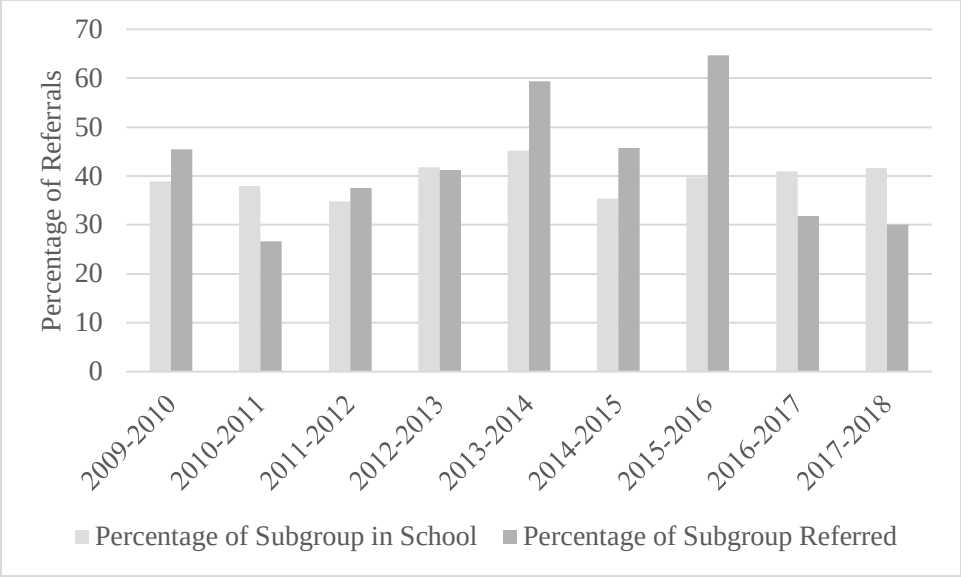

Figure 7. Comparison of Black Students Referred to Black Subgroup – School A.

Discrepancies existed during the 2009-2010, 2011-2012, 2013-2014, 2014-2015, and 2015-2016 school years, suggesting an overrepresentation of Black students being referred at School A. The most significant overrepresentation occurred during the 2015-2016 school year when 39.7% of the school population consisted of Black students and 64.7% of special education referrals were Black students. Referrals were equitable during the 2012-2013 school year when 41.8% of the school population consisted of Black students and 41.2% of special education referrals were Black students.

The analysis of quantitative data for the Hispanic subgroup at School A from 2009-2010 to the 2017-2018 school year is presented in Table 8.

Table 8

Number of Referred Hispanic Students – School A

	Number of Students In Subgroup	Total School Population	Percentage of Subgroup in School	Number of Subgroup Referred	Total of Referred Students	Percentage of Referred Students in Subgroup
2009-2010	9	329	2.7	0	11	0
2010-2011	19	311	6.1	1	15	6.7
2011-2012	17	390	4.3	1	16	6.3
2012-2013	19	385	4.9	0	17	0
2013-2014	14	387	3.6	3	27	11.1
2014-2015	21	384	5.4	2	24	8.3
2015-2016	20	362	5.5	0	17	0
2016-2017	20	376	5.3	0	22	0
2017-2018	17	381	4.4	2	20	10.0

To determine if the referral of Hispanic students was equitable at School A, the number of referred students was divided by the total school population and also the total number of referred students. A comparison of the percentage of the Hispanic students within the school and the percentage of Hispanic students referred is displayed in Figure 8.

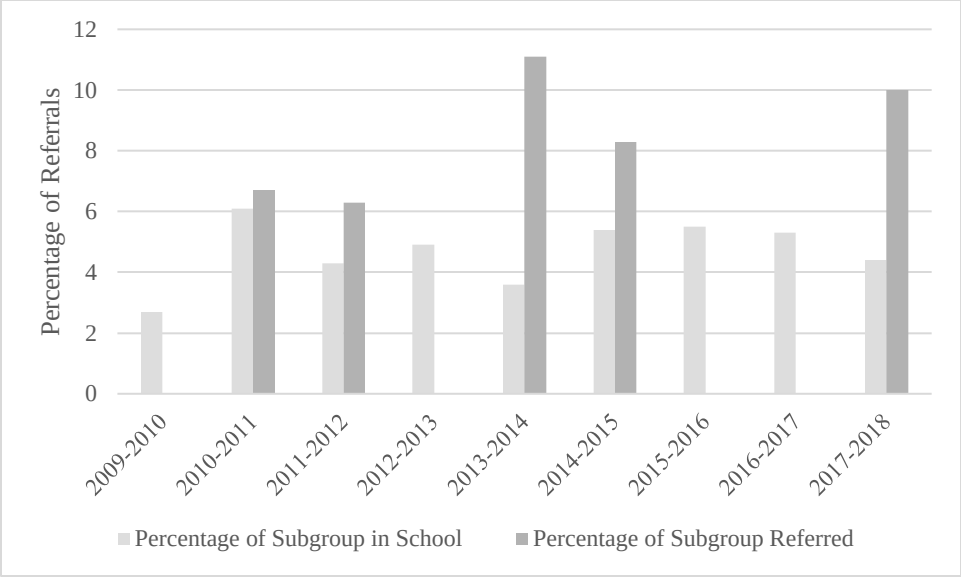

Figure 8. Comparison of Hispanic Students Referred to Hispanic Subgroup – School A.

During 4 years of the study, Hispanic students were not referred for special education evaluations. The referral of Hispanic students was equitable during the 2010-2011 school year with 6.1% of the total school population being Hispanic and 6.7% of the referrals being Hispanic. Discrepancies suggesting the overrepresentation of Hispanic students in referrals existed during the 2011-2012, 2013-2014, 2014-2015, and 2017-2018 school years. Conclusions cannot be drawn based on these data due to the small sample of Hispanic students at School A. The analysis of quantitative data for the multi-racial subgroup at School A from 2009-2010 to the 2017-2018 school year is presented in Table 9.

Table 9

Number of Referred Multi-Racial Students – School A

	Number of Students in Subgroup	Total School Population	Percentage of Subgroup in School	Number of Subgroup Referred	Total of Referred Students	Percentage of Referred Students in Subgroup
2009-2010	10	329	3.0	1	11	9.0
2010-2011	13	311	4.1	1	15	6.7
2011-2012	24	390	6.1	0	16	0
2012-2013	14	385	3.6	0	17	0
2013-2014	19	387	4.9	0	27	0
2014-2015	31	384	8.0	1	24	4.1
2015-2016	19	362	5.2	0	17	0
2016-2017	19	376	5.0	3	22	13.6
2017-2018	21	381	5.5	3	20	15.0

To determine if discrepancies existed in the referral of multi-racial students, the number of referred multi-racial students was divided by the total school population in addition to the total number of referred students. A comparison of the percentage of the multi-racial students within the school and the percentage of multi-racial students referred is displayed in Figure 9.

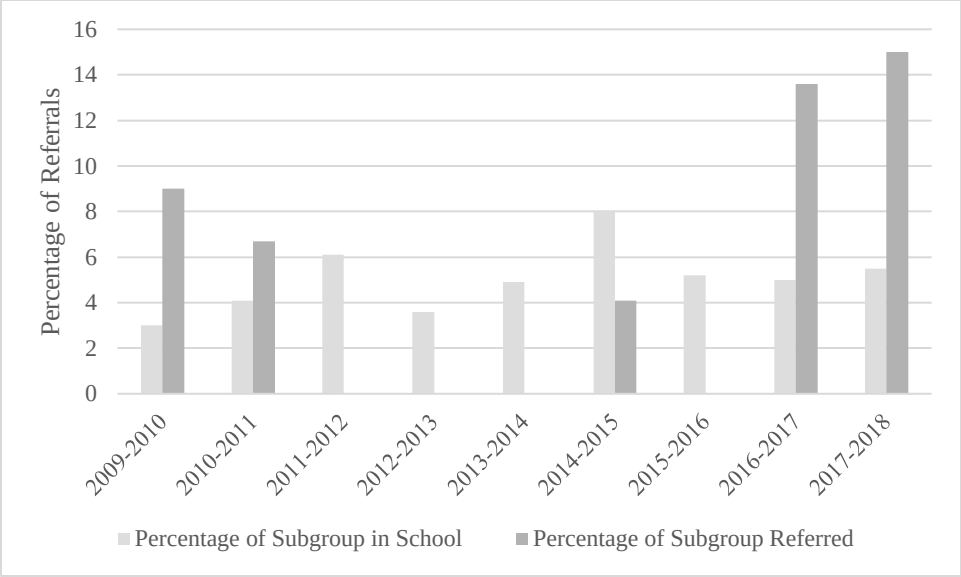

Figure 9. Comparison of Multi-Racial Students Referred to Multi-Racial Subgroup – School A.

Students from the multi-racial subgroup were not referred during 4 years of the study. Overrepresentation in the referral of multi-racial students occurred at School A during the 2009-2010, 2010-2011, 2016-2017, and 2017-2018 school years with the percentage of referred multi-racial students being more than the percentage of the subgroup referred. The small sample size of multi-racial students limited the power of this study and prohibited meaningful conclusions from being drawn.

The data analysis for the White subgroup at School A from 2009-2010 to the 2017-2018 school year is presented in Table 10.

Table 10

Number of Referred White Students – School A

	Number of Students in Subgroup	Total School Population	Percentage of Subgroup in School	Number of Subgroup Referred	Total of Referred Students	Percentage of Referred Students in Subgroup
2009-2010	177	329	53.7	5	11	45.5
2010-2011	157	311	50.4	8	15	53.3
2011-2012	197	390	50.5	9	16	56.3
2012-2013	187	385	48.5	10	17	58.8
2013-2014	177	387	45.7	8	27	29.6
2014-2015	174	384	45.3	10	24	41.7
2015-2016	174	362	48.0	5	17	29.4
2016-2017	179	376	47.6	12	22	54.5
2017-2018	180	381	47.2	9	20	45.0

To determine if there was an inequity in the referral of White students at School A, the number of referred White students was divided by the total school population and the total number of referred students. A comparison of the percentage of White students within the school and the percentage of White students referred is displayed in Figure 10.

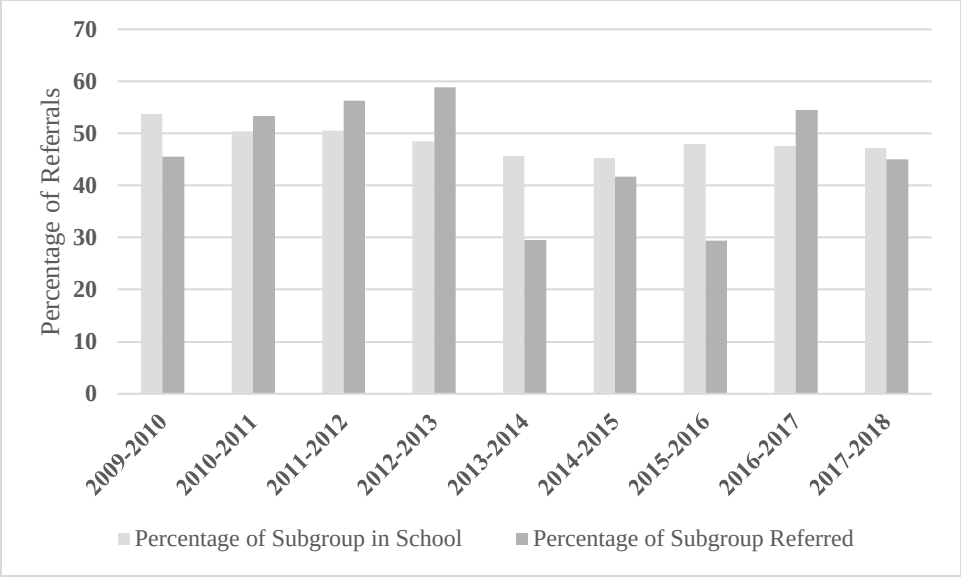

Figure 10. Comparison of White Students Referred to White Subgroup – School A.

The data show that during the 2010-2011, 2011-2012, 2012-2013, and 2016-2017 school years, there was an overrepresentation of White students referred at School A, whereas there was an underrepresentation of White students referred during the 2009-2010, 2013-2014, 2014-2015, 2015-2016, and 2017-2018 school years. The most significant overrepresentation occurred during the 2012-2013 school year when 48.5% of the school population consisted of White students and 58.8% of special education referrals were White students.

The analysis of quantitative data for the Asian subgroup at School B from 2009-2010 to the 2017-2018 school year is presented in Table 11.

Table 11

Number of Referred Asian Students – School B

	Number of Students in Subgroup	Total School Population	Percentage of Subgroup in School	Number of Subgroup Referred	Total of Referred Students	Percentage of Referred Students in Subgroup
2009-2010	2	679	0.2	0	17	0
2010-2011	4	681	0.5	0	28	0
2011-2012	2	664	0.3	1	25	4.0
2012-2013	7	640	1.0	0	28	0
2013-2014	7	664	1.0	2	29	6.9
2014-2015	5	633	0.7	1	23	4.3
2015-2016	5	614	0.8	1	29	3.4
2016-2017	7	576	1.2	0	27	0
2017-2018	4	574	0.6	2	28	7.1

In each year of the study, a discrepancy existed between the percentage of Asian students in the total school and the percentage of Asian students referred in comparison to the total number of referrals. Asian students were not referred for special education evaluations during 4 of the years studied. An overrepresentation of Asian students in referrals existed during the 2011-2012, 2013-2014, 2014-2015, 2015-2016, and 2017-2018 school years. The largest overrepresentation of Asian students occurred during the 2017-2018 school year when 0.6% of the school population consisted of Asian students and 7.1% of special education referrals were Asian students. Due to the small sample size of Asian students, the data were inconclusive.

Data analysis for the Black subgroup at School B from 2009-2010 to the 2017-2018 school year is presented in Table 12.

Table 12

Number of Referred Black Students – School B

	Number of Students in Subgroup	Total School Population	Percentage of Subgroup in School	Number of Subgroup Referred	Total of Referred Students	Percentage of Referred Students in Subgroup
2009-2010	81	679	11.9	5	17	29.4
2010-2011	86	681	12.6	6	28	21.4
2011-2012	74	664	11.1	5	25	20.0
2012-2013	84	640	13.1	6	28	21.4
2013-2014	84	664	12.6	3	29	10.3
2014-2015	98	633	15.4	6	23	26.1
2015-2016	83	614	13.5	7	29	24.1
2016-2017	84	576	14.5	3	27	11.1
2017-2018	79	574	13.7	9	28	32.1

A comparison of the percentage of the Black students within the school and the percentage of Black students referred is displayed in Figure 11.

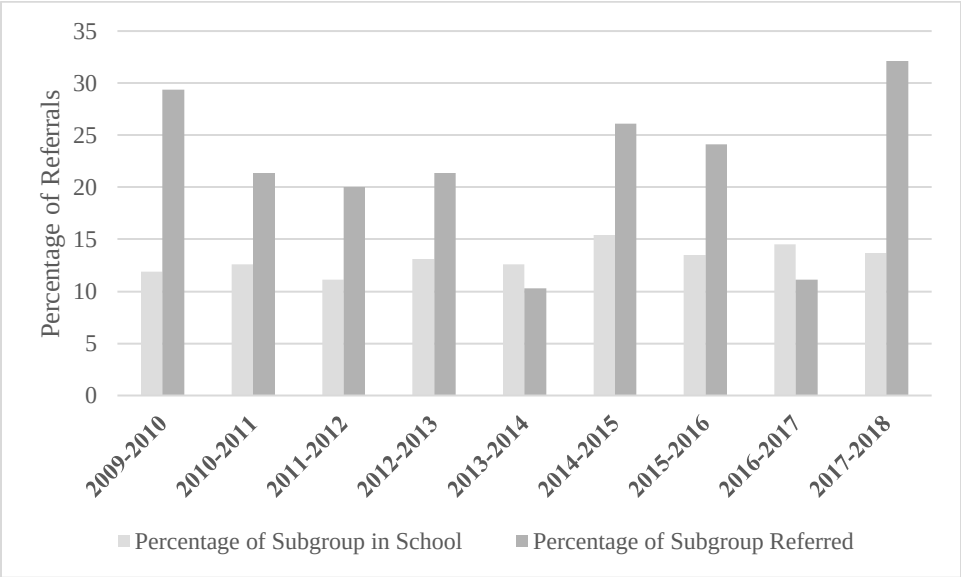

Figure 11. Comparison of Black Students Referred to Black Subgroup – School B.

To determine if there was an inequity in the referral of Black students at School B, the number of referred Black students was divided by the total school population and the total number of referred students. For referrals to be equitable, these percentages would be reasonably close. Data suggested that an overrepresentation in the referral of Black students occurred in all years except for the 2013-2014 and 2016-2017 school years. During the 2013-2014 and 2016-2017 school years, an underrepresentation of Black students occurred in the referral process. The most significant overrepresentation happened during the 2017-2018 school year when 13.7% of the school population consisted of Black students and 32.1% of referrals were Black students.

The analysis of quantitative data for the Hispanic subgroup at School B from 2009-2010 to the 2017-2018 school year is presented in Table 13.

Table 13

Number of Referred Hispanic Students – School B

	Number of Students in Subgroup	Total School Population	Percentage of Subgroup in School	Number of Subgroup Referred	Total of Referred Students	Percentage of Referred Students in Subgroup
2009-2010	36	679	5.3	2	17	11.8
2010-2011	41	681	6.0	2	28	7.1
2011-2012	33	664	4.9	0	25	0
2012-2013	52	640	8.1	0	28	0
2013-2014	43	664	6.4	5	29	17.2
2014-2015	38	633	6.0	2	23	8.7
2015-2016	35	614	5.7	3	29	10.3
2016-2017	31	576	5.3	3	27	11.1
2017-2018	28	574	4.8	2	28	7.1

The percentage of the subgroup in the total school population and the percentage of referred Hispanic students in the subgroup were compared to establish if inequalities existed. A comparison of the percentage of the Hispanic students within the school and the percentage of Hispanic students referred is displayed in Figure 12.

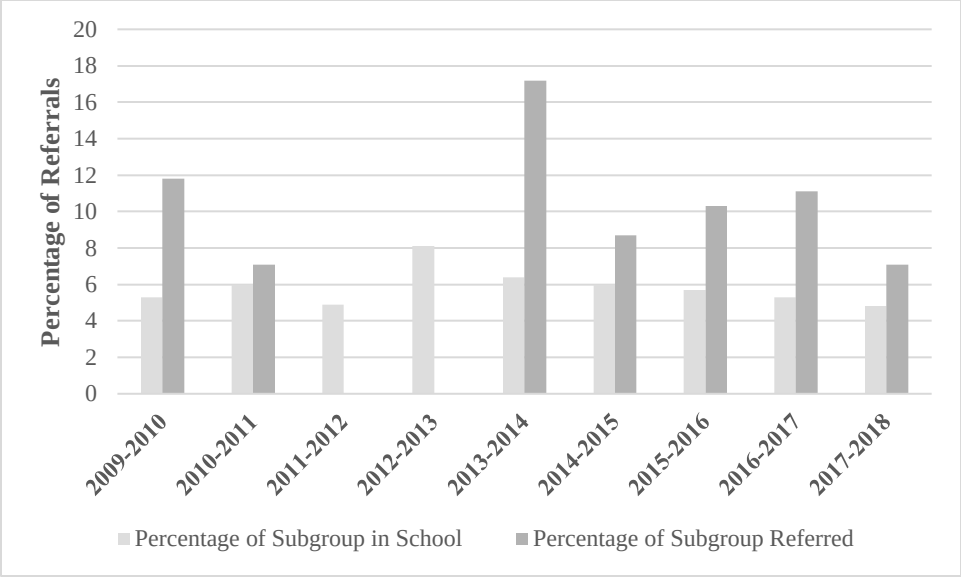

Figure 12. Comparison of Hispanic Students Referred to Hispanic Subgroup – School B.

Hispanic students were not referred during the 2011-2012 and 2012-2013 school years. Quantitative data suggested that an overrepresentation of Hispanic students in special education referrals occurred each year of the study except for the 2011-2012 and 2012-2013 school years. The most substantial overrepresentation occurred during the 2013-2014 school year when 6.4% of the school population consisted of Hispanic students and 17.2% of special education referrals were Hispanic students. Due to the small sample size of Hispanic students at School B, the data were inconclusive.

Data analysis for the multi-racial subgroup at School B from 2009-2010 to the 2017-2018 school year is presented in Table 14.

Table 14

Number of Referred Multi-Racial Students – School B

	Number of Students in Subgroup	Total School Population	Percentage of Subgroup in School	Number of Subgroup Referred	Total of Referred Students	Percentage of Referred Students in Subgroup
2009-2010	21	679	3.0	0	17	0
2010-2011	25	681	3.6	1	28	3.6
2011-2012	31	664	4.6	3	25	12.0
2012-2013	20	640	3.1	3	28	10.7
2013-2014	19	664	2.8	0	29	0
2014-2015	21	633	3.3	0	23	0
2015-2016	19	614	3.0	2	29	6.9
2016-2017	19	576	3.2	2	27	7.4
2017-2018	18	574	3.1	4	28	14.3

To determine if discrepancies existed in the referral of multi-racial students at School B, the number of referred multi-racial students was divided by the total school population in addition to the total number of referred students and compared. The comparison of the percentage of the multi-racial students within the school and the percentage of multi-racial students referred is displayed in Figure 13.

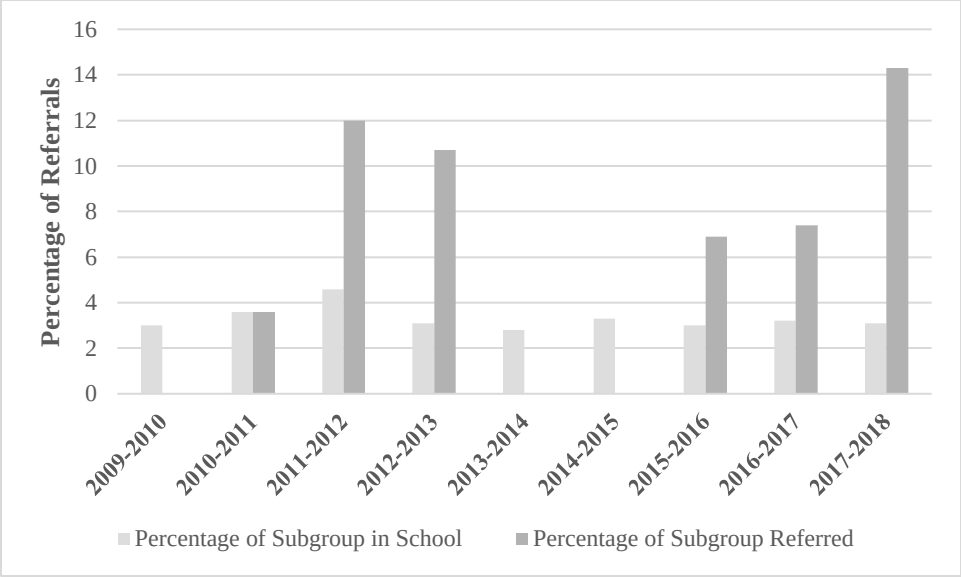

Figure 13. Comparison of Multi-Racial Students Referred to Multi-Racial Subgroup – School B.

During the 2010-2011 school year, the percentage of multi-racial students in the school was equitable to the percentage of referred multi-racial students. Equitability was established because the percentage of multi-racial students in the school was equitable to the percentage of referred multi-racial students within the school. An overrepresentation in the referral of multi-racial students for special education evaluations occurred during the 2011-2012, 2012-2013, 2015-2016, 2016-2017, and 2017-2018 school years. The overrepresentation was discovered because the percentage of referred multi-racial students at School B was greater than the percentage of multi-racial students in the school. Multi-racial students were not referred for special education evaluations during the 2009-2010, 2013-2014, and 2014-2015 school years. The small sample size of multi-racial students at School B limited the power of this study and prohibited meaningful conclusions from being drawn.

The analysis of quantitative data for the White subgroup at School B from 2009-

2010 to the 2017-2018 school year is presented in Table 15.

Table 15

Number of Referred White Students – School B

	Number of Students in Subgroup	Total School Population	Percentage of Subgroup in School	Number of Subgroup Referred	Total of Referred Students	Percentage of Referred Students in Subgroup
2009-2010	537	679	79.1	10	17	58.9
2010-2011	478	681	70.2	19	28	67.9
2011-2012	523	664	78.8	16	25	64.0
2012-2013	467	640	72.9	19	28	67.9
2013-2014	511	664	76.9	19	29	65.5
2014-2015	480	633	75.8	14	23	60.9
2015-2016	472	614	76.9	16	29	55.2
2016-2017	435	576	75.5	19	27	70.4
2017-2018	396	574	68.9	11	28	39.3

To determine if there were inequities in the referral of White students at School B, the number of referred White students was divided by the total school population and the total number of referred students and compared. A comparison of the percentage of the White students within the school and the percentage of White students referred is displayed in Figure 14.

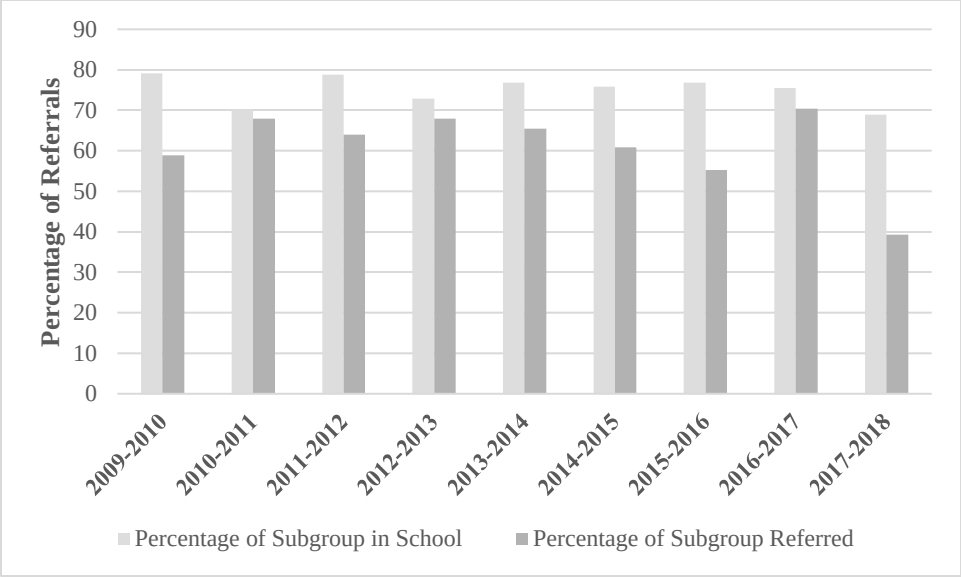

Figure 14. Comparison of White Students Referred to White Subgroup – School B.

During the 2009-2010 to the 2017-2018 school years, an underrepresentation of White students in the referral for special education evaluations occurred at School B. The largest discrepancy occurred during the 2017-2018 school year when 68.9% of the school's population consisted of White students and 39.3% of referred students were White.

The disaggregated data were further analyzed to investigate the referral rates of males and females at each school. The percentage of the subgroup in the school was compared to the percentage of the referred students in the subgroup. The referral rates of male students for School A are presented in Table 16.

Table 16

Number of Referred Male Students – School A

	Number of Students in Subgroup	Total School Population	Percentage of Subgroup in School	Number of Subgroup Referred	Total of Referred Students	Percentage of Referred Students in Subgroup
2009-2010	167	329	50.7	9	11	81.8
2010-2011	156	311	50.1	10	15	66.7
2011-2012	209	390	53.5	10	16	62.5
2012-2013	197	385	51.1	12	17	70.6
2013-2014	199	387	51.4	18	27	66.7
2014-2015	206	384	53.6	16	24	66.7
2015-2016	176	362	48.6	14	17	82.4
2016-2017	193	376	51.3	14	22	63.6
2017-2018	193	381	50.6	12	20	60.0

A comparison of the percentage of the male students within the school and the percentage of male students referred is displayed in Figure 15.

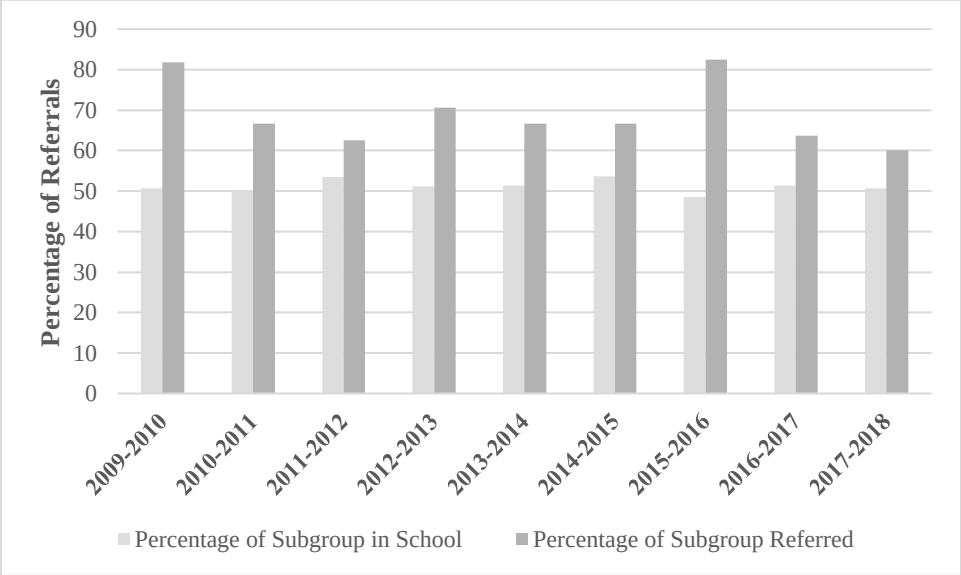

Figure 15. Comparison of Male Students Referred to Male Subgroup – School A.

Data analysis indicated inequity in the referral of male students for special education evaluations at School A. Male students were overrepresented in referrals during all years of the study. The most significant overrepresentation occurred during the 2015-2016 school year when 48.6% of the school population consisted of males and 82.4% of special education referrals were male students.

The referral rates of female students for School A are presented in Table 17.

Table 17

Number of Referred Female Students – School A

	Number of Students in Subgroup	Total School Population	Percentage of Subgroup in School	Number of Subgroup Referred	Total of Referred Students	Percentage of Referred Students in Subgroup
2009-2010	162	329	49.2	2	11	18.2
2010-2011	155	311	49.8	5	15	33.3
2011-2012	181	390	46.4	6	16	37.5
2012-2013	188	385	48.8	5	17	29.4
2013-2014	188	387	48.5	9	27	33.3
2014-2015	178	384	46.3	8	24	33.3
2015-2016	186	362	51.3	3	17	17.6
2016-2017	183	376	48.6	8	22	36.4
2017-2018	18	381	47.2	8	20	40.0

The percentage of female students in the total school population and the percentage of referred females in the subgroup were compared to establish if inequalities existed. A comparison of the percentage of female students within the school and the percentage of female students referred is displayed in Figure 16.

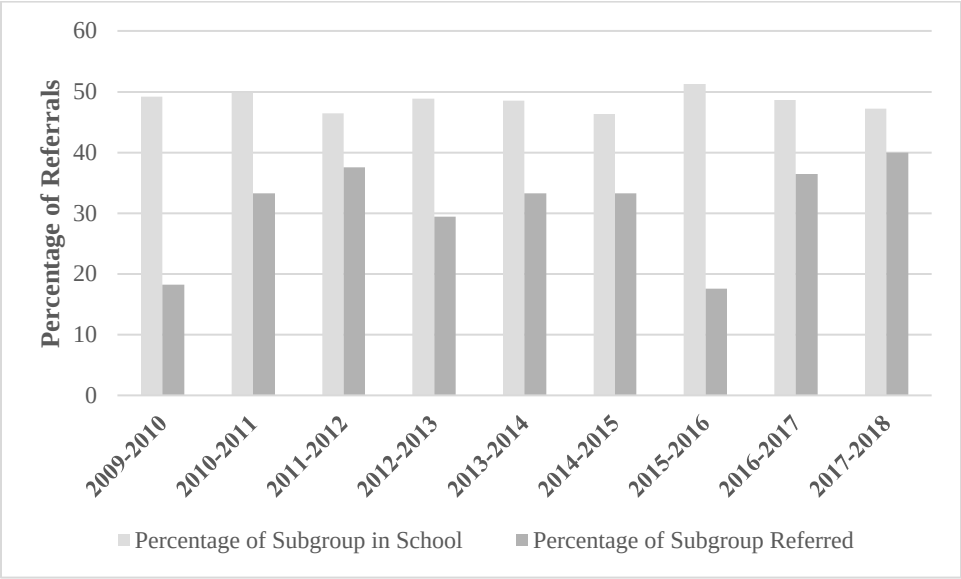

Figure 16. Comparison of Female Students Referred to Female Subgroup – School A.

Data show that inequalities did occur with an underrepresentation of female students during all years of the study.

The referral rates of male students for School B are presented in Table 18.

Table 18

Number of Referred Male Students – School B

	Number of Students in Subgroup	Total School Population	Percentage of Subgroup in School	Number of Subgroup Referred	Total of Referred Students	Percentage of Referred Students in Subgroup
2009-2010	364	679	53.6	11	17	64.7
2010-2011	376	681	55.2	18	28	64.3
2011-2012	362	664	54.5	21	25	84.0
2012-2013	337	640	52.6	20	28	71.4
2013-2014	358	664	53.9	19	29	65.5
2014-2015	324	633	51.1	11	23	47.8
2015-2016	325	614	52.9	21	29	72.4
2016-2017	299	576	51.9	20	27	74.1
2017-2018	267	574	46.5	16	28	57.1

Inequities in the referral of male students occurred during all years of the study at School B. To establish if special education referrals were equitable, the percentage of referred males was divided by the total school population and the total number of referred male students and compared. A comparison of the percentage of the male students within the school and the percentage of male students referred is displayed in Figure 17.

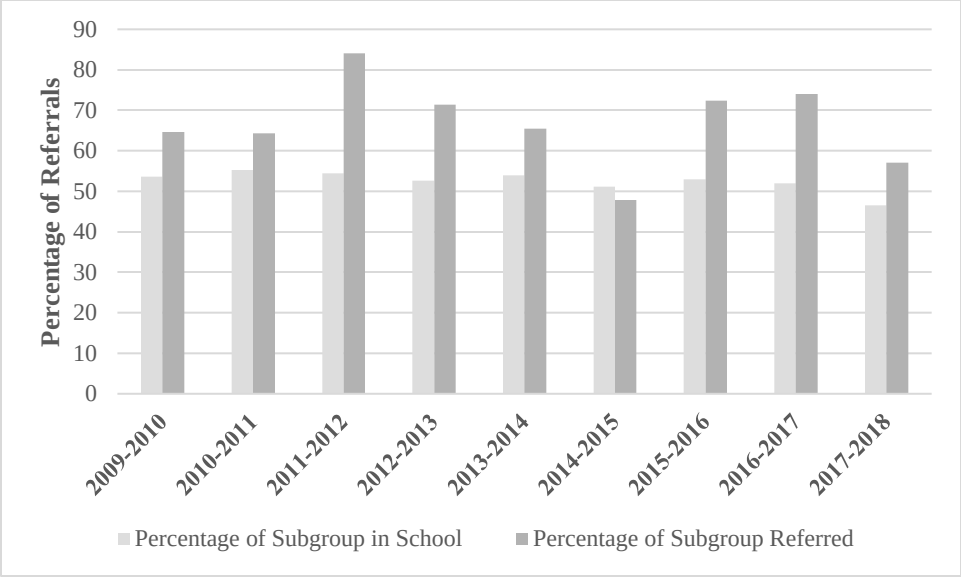

Figure 17. Comparison of Male Students Referred to Male Subgroup – School B.

During the 2014-2015 school year, an underrepresentation in the referral of male students for special education evaluations occurred with 51.1% of the school population consisting of males and 47.8% of special education referrals being male students. There was an overrepresentation in the referral of male students at School B during the 2009-2010, 2010-2011, 2011-2012, 2012-2013, 2013-2014, 2015-2016, 2016-2017, and 2017-2018 school years.

The referral rates of female students for School B are presented in Table 19.

Table 19

Number of Referred Female Students – School B

	Number of Students in Subgroup	Total School Population	Percentage of Subgroup in School	Number of Subgroup Referred	Total of Referred Students	Percentage of Referred Students in Subgroup
2009-2010	314	679	46.2	6	17	35.3
2010-2011	305	681	44.7	10	28	35.7
2011-2012	302	664	45.4	4	25	16.0
2012-2013	301	640	47.0	8	28	28.6
2013-2014	306	664	46.0	10	29	34.5
2014-2015	319	633	50.3	12	23	52.2
2015-2016	289	614	47.0	8	29	27.6
2016-2017	277	576	48.0	7	27	25.9
2017-2018	258	574	44.9	12	28	42.9

To establish if inequities existed at School B, the percentage of female students in the total school population and the percentage of referred females in the subgroup were compared. A comparison of the percentage of the male students within the school and the percentage of male students referred is displayed in Figure 18.

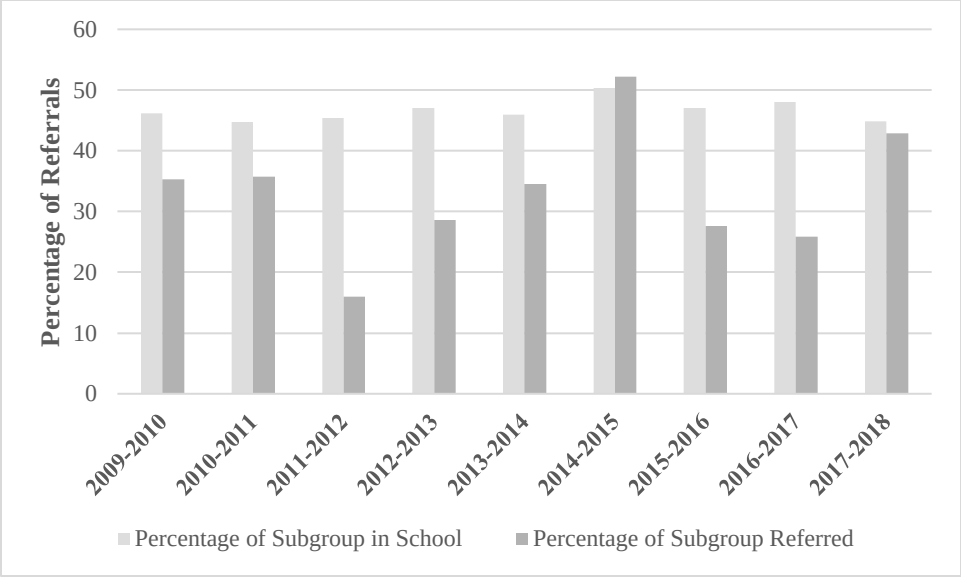

Figure 18. Comparison of Female Students Referred to Female Subgroup – School B.

During the 2014-2015 school year, 50.3% of the students at School B were female and 52.2% of referred students were female, indicating an overrepresentation in the referral of female students. Data show that an underrepresentation in the referral of female students occurred at School B during the remaining years of the study.

Inequity occurred at both schools with the overrepresentation in the referral of Black students for special education evaluations. Students from the Black subgroup were overrepresented in 55.6% of the years studied at School A; whereas at School B, Black students were overrepresented in 88.9% of the years. White students were underrepresented in the referral of special education evaluations at School B in all years studied and 5 of the years studied at School A. Inequity also occurred with the male subgroup at School A with male students being overrepresented in all of the years studied and referred for special education evaluations more than females. Male students were referred for special education evaluations in 88.9% of the years studied at School B.

With the Asian, Hispanic, and multi-racial subgroups at both schools, results were inconclusive due to the small sample size of the subgroups. The small sample sizes limited the power and generalizability of the study.

MTSS Impact on Eligibility of SLDs

Research Question 2 was created to investigate the effect of the MTSS framework on the number of students eligible for special education services in the area of SLD. To examine how the percentage of students eligible for special education services in the area of SLD compared to the total school enrollment at each school, percentages were calculated using the proportion to percent method with the ratio of students identified as learning disabled to the total student enrollment for each school year. In determining the percentage of students eligible of those referred for each school, the number of students eligible was divided by the number referred. The percentages of students identified as learning disabled at each school from 2009-2010 to the 2017-2018 school year are presented in Table 20.

Table 20

Percentages of Students Eligible as SLD for Schools A and B

	Number Referred School A	Percentage Eligible of Referred School A	Number of Students Eligible School A	Percentage of Students Eligible School A	Number Referred School B	Percentage Eligible of Referred School B	Number of Students Eligible School B	Percentage of Students Eligible School B
2009-2010	11	27.3	3	0.9	17	29.4	5	0.7
2010-2011	15	6.7	1	0.3	28	7.1	2	0.2
2011-2012	16	6.3	1	0.2	25	16.0	4	0.6
2012-2013	17	29.4	5	1.2	28	28.6	8	1.2
2013-2014	26	34.6	9	2.3	29	20.7	6	0.9
2014-2015	24	25.0	6	1.5	23	17.4	4	0.6
2015-2016	17	11.8	2	0.5	29	24.1	7	1.1
2016-2017	22	22.7	5	1.3	26	30.8	8	1.3
2017-2018	20	30.0	6	1.5	28	25.0	7	1.2

When compared to the total school population, data pertaining to student eligibility for special education services in the category of SLD did not show a consistent increase or decrease. There was not a consistent trend due to the fluctuation of the percentages of students eligible for services. Archival quantitative data for each school indicating the percentage of students eligible for special education services in the area of SLDs from 2009-2010 to the 2017-2018 school year were analyzed to determine if there was an upward or downward trend in learning disabled eligibility. Eligibility data for special education services in the area of SLD for Schools A and B from 2009-2010 to the 2017-2018 school year are presented in a line graph in Figure 7.

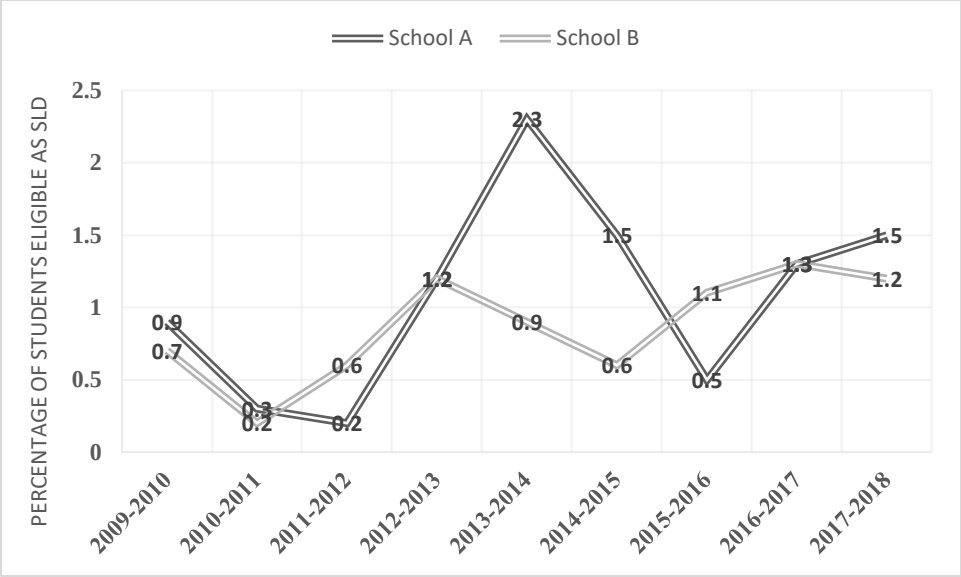

Figure 19. Students Eligible as SLD at Schools A and B.

The data were further disaggregated into subgroups consisting of Asian, Black, Hispanic, multi-racial, White, male, and female. These subgroups were selected based on the demographics of the schools that were studied. The percentages were calculated using the proportion to percent method with the number of eligible students in the subgroup divided by the total students eligible. The number of students eligible were also divided by the number of students referred in the subgroup.

The analysis of disaggregated data for the Asian subgroup at School A from 2009-2010 to the 2017-2018 school year is presented in Table 21.

Table 21

Number of Eligible Asian Students – School A

	Number Subgroup Referred	Percentage Eligible of Subgroup Referred	Number Subgroup Eligible	Total Students Eligible	Percentage Students Eligible in Subgroup
2009-2010	0	0	0	3	0
2010-2011	1	0	0	1	0
2011-2012	0	0	0	1	0
2012-2013	0	0	0	5	0
2013-2014	0	0	0	9	0
2014-2015	0	0	0	6	0
2015-2016	1	0	0	2	0
2016-2017	0	0	0	5	0
2017-2018	0	0	0	6	0

From 2009-2010 to the 2017-2018 school year, Asian students were not identified as being eligible for special education services in the area of SLD.

Data analysis for the Black subgroup at School A from 2009-2010 to the 2017-2018 school year is presented in Table 22.

Table 22

Number of Eligible Black Students – School A

	Number Subgroup Referred	Percentage Eligible of Subgroup Referred	Number Subgroup Eligible	Total Students Eligible	Percentage Students Eligible in Subgroup
2009-2010	5	60.0	3	3	100.0
2010-2011	4	0	0	1	0
2011-2012	6	16.7	1	1	100.0
2012-2013	7	28.6	2	5	40.0
2013-2014	16	31.3	5	9	55.6
2014-2015	11	36.3	4	6	66.7
2015-2016	11	9.1	1	2	50.0
2016-2017	7	14.3	1	5	20.0
2017-2018	6	33.3	2	6	33.3

In analyzing the quantitative data for Black students at School A, the number of eligible students in the subgroup was divided by the total students eligible, and the number of eligible students in the subgroup was divided by the number of students referred in the subgroup. During the 2009-2010 and 2011-2012 school years, 100.0% of the students identified as having an SLD at School A were Black. During the 2010-2011 school year, Black students were not identified as being learning disabled at the school; however, four Black students were referred for special education evaluations. The referral of Black students increased significantly during the 2013-2014, 2014-2015, and 2015-2016 school years, but the eligibility of Black students did not consistently increase.

Data analysis for the Hispanic subgroup at School A from 2009-2010 to the 2017-2018 school year is presented in Table 23.

Table 23

Number of Eligible Hispanic Students – School A

	Number Subgroup Referred	Percentage Eligible of Subgroup Referred	Number Subgroup Eligible	Total Students Eligible	Percentage Students Eligible in Subgroup
2009-2010	0	0	0	3	0
2010-2011	1	0	0	1	0
2011-2012	1	100.0	1	1	100.0
2012-2013	0	0	0	5	0
2013-2014	3	66.7	2	9	22.2
2014-2015	2	50.0	1	6	16.7
2015-2016	0	0	0	2	0
2016-2017	0	0	0	5	0
2017-2018	2	0	0	6	0

Percentages were calculated using the proportion to percent method with the number of eligible students in the subgroup divided by the total students eligible. The number of students eligible was also divided by the number of students referred in the subgroup. Data indicated that Hispanic students were only identified as having an SLD during the 2011-2012, 2013-2014, and 2014-2015 school years. During the 2011-2012 school year, the percentage of Hispanic students eligible of the subgroup referred and the percentage of Hispanic students eligible were equal, meaning all of the referred students in the subgroup were determined to be eligible as having an SLD. Due to the small sample size of Hispanic students, the quantitative data are inconclusive.

Data analysis for the multi-racial subgroup at School A from 2009-2010 to the 2017-2018 school year is presented in Table 24.

Table 24

Number of Eligible Multi-Racial Students – School A

	Number Subgroup Referred	Percentage Eligible of Subgroup Referred	Number Subgroup Eligible	Total Students Eligible	Percentage Students Eligible in Subgroup
2009-2010	1	0	0	3	0
2010-2011	1	0	0	1	0
2011-2012	0	0	0	1	0
2012-2013	0	0	0	5	0
2013-2014	0	0	0	9	0
2014-2015	1	0	0	6	0
2015-2016	0	0	0	2	0
2016-2017	3	33.3	1	5	20.0
2017-2018	3	0	0	6	0

From 2009-2010 to the 2017-2018 school year, multi-racial students were not identified as being eligible for special education services in the area of SLD, except for the 2016-2017 school year. During the 2016-2017 school year, 33.3% of multi-racial students were referred and 20.0% of the total students eligible were multi-racial. Due to the small sample size of multi-racial students, the data are misleading and conclusions could not be drawn.

Data analysis for the White subgroup at School A from 2009-2010 to the 2017-2018 school year is presented in Table 25.

Table 25

Number of Eligible White Students – School A

	Number Subgroup Referred	Percentage Eligible of Subgroup Referred	Number Subgroup Eligible	Total Students Eligible	Percentage Students Eligible in Subgroup
2009-2010	5	0	0	3	0
2010-2011	8	12.5	1	1	100.0
2011-2012	9	0	0	1	0
2012-2013	10	30.0	3	5	60.0
2013-2014	8	25.0	2	9	22.2
2014-2015	10	10.0	1	6	16.7
2015-2016	5	20.0	1	2	50.0
2016-2017	12	25.0	3	5	60.0
2017-2018	9	44.4	4	6	66.7

In analyzing the quantitative data for White students at School A, the number of eligible students in the subgroup was divided by the total students eligible, and the number of eligible students in the subgroup was divided by the number of students referred in the subgroup. During the 2009-2010 and the 2011-2012 school years, White students were not identified as having an SLD at School A. All students identified as having an SLD at School A during the 2010-2011 school year were White. The referral of White students increased during the 2016-2017 school year; however, the identification of White students having a learning disability did not increase in the White subgroup.

Data analysis for the Asian subgroup at School B from 2009-2010 to the 2017-2018 school year is presented in Table 26.

Table 26

Number of Eligible Asian Students – School B

	Number Subgroup Referred	Percentage Eligible of Subgroup Referred	Number Subgroup Eligible	Total Students Eligible	Percentage Students Eligible in Subgroup
2009-2010	0	0	0	5	0
2010-2011	0	0	0	2	0
2011-2012	1	0	0	4	0
2012-2013	0	0	0	8	0
2013-2014	2	0	0	6	0
2014-2015	1	0	0	4	0
2015-2016	1	0	0	7	0
2016-2017	0	0	0	8	0
2017-2018	2	0	0	7	0

Asian students were not determined eligible for special education services at School B from 2009-2010 to the 2017-2018 school year.

Data analysis for the Black subgroup at School B from 2009-2010 to the 2017-2018 school year is presented in Table 27.

Table 27

Number of Eligible Black Students – School B

	Number Subgroup Referred	Percentage Eligible of Subgroup Referred	Number Subgroup Eligible	Total Students Eligible	Percentage Students Eligible in Subgroup
2009-2010	5	40.0	2	5	40.0
2010-2011	6	0	0	2	0
2011-2012	5	20.0	1	4	25.0
2012-2013	6	50.0	3	8	37.5
2013-2014	3	66.7	2	6	33.3
2014-2015	6	33.3	2	4	50.0
2015-2016	7	42.9	3	7	42.9
2016-2017	3	66.7	2	8	25.0
2017-2018	9	33.3	3	7	42.9

Data analysis for School B consisted of dividing the number of eligible Black students in the subgroup by the total students eligible as well as dividing the number of eligible Black students in the subgroup by the number of students referred in the subgroup. Black students were not determined to be eligible as having a learning disability during the 2010-2011 school year. The percentage of Black students referred was equitable to the percentage of Black students eligible during the 2009-2010 and 2015-2016 school years, meaning the same percentage of students eligible of those referred in the subgroup was equal to the percentage of students eligible in the subgroup. From 2011-2012 to the 2017-2018 school year, more Black students were referred for special education evaluations than were determined eligible as having an SLD.

Data analysis for the Hispanic subgroup at School B from 2009-2010 to the 2017-2018 school year is presented in Table 28.

Table 28

Number of Eligible Hispanic Students – School B

	Number Subgroup Referred	Percentage Eligible of Subgroup Referred	Number Subgroup Eligible	Total Students Eligible	Percentage Students Eligible in Subgroup
2009-2010	2	0	0	5	0
2010-2011	2	0	0	2	0
2011-2012	0	0	0	4	0
2012-2013	0	0	0	8	0
2013-2014	5	40.0	2	6	33.3
2014-2015	2	50.0	1	4	25.0
2015-2016	3	66.7	2	7	28.6
2016-2017	3	33.3	1	8	12.5
2017-2018	2	0	0	7	0

Quantitative data analysis for School B consisted of dividing the number of eligible Hispanic students in the subgroup by the total students eligible as well as dividing the number of eligible Hispanic students in the subgroup by the number of students referred in the subgroup. Hispanic students were not identified as having an SLD at School B during the 2009-2010, 2010-2011, 2011-2012, 2012-2013, and 2017-2018 school years. The percentage of students referred from the Hispanic subgroup was greater than the percentage of Hispanic students identified as having a learning disability during the 2013-2014, 2014-2015, 2015-2016, and 2016-2017 school years. Due to the small sample population, conclusions cannot be inferred about the eligibility of SLDs with the Hispanic subgroup at School B.

Data analysis for the multi-racial subgroup at School B from 2009-2010 to the 2017-2018 school year is presented in Table 29.

Table 29

Number of Eligible Multi-Racial Students – School B

	Number Subgroup Referred	Percentage Eligible of Subgroup Referred	Number Subgroup Eligible	Total Students Eligible	Percentage Students Eligible in Subgroup
2009-2010	0	0	0	5	0
2010-2011	1	0	0	2	0
2011-2012	3	0	0	4	0
2012-2013	3	0	0	8	0
2013-2014	0	0	0	6	0
2014-2015	0	0	0	4	0
2015-2016	2	0	0	7	0
2016-2017	2	0	0	8	0
2017-2018	4	0	0	7	0

Multi-racial students were not identified as having an SLD during from 2009-2010 to the 2017-2018 school year at School B.

Data analysis for the White subgroup at School B from 2009-2010 to the 2017-2018 school year is presented in Table 30.

Table 30

Number of Eligible White Students – School B

	Number Subgroup Referred	Percentage Eligible of Subgroup Referred	Number Subgroup Eligible	Total Students Eligible	Percentage Students Eligible in Subgroup
2009-2010	10	30.0	3	5	60.0
2010-2011	19	10.5	2	2	100.0
2011-2012	16	18.8	3	4	75.0
2012-2013	19	26.3	5	8	62.5
2013-2014	19	10.5	2	6	33.3
2014-2015	14	7.1	1	4	25.0
2015-2016	16	12.5	2	7	28.6
2016-2017	19	26.3	5	8	62.5
2017-2018	11	36.4	4	7	57.1

For data analysis at School B, the number of eligible students in the subgroup was divided by the total students eligible, and the number of eligible students in the subgroup was divided by the number of students referred in the subgroup. During the 2010-2011 school year, 100.0% of the students identified as having an SLD at School B were White. The majority of students determined eligible as having a learning disability at School B were White during the 2009-2010, 2011-2012, 2012-2013, and 2016-2017 school years. The number of White students referred for special education evaluations was significantly greater than the number of students identified as having an SLD at School B during all years of the study.

The disaggregated data were further analyzed to investigate the rates of students determined eligible for special education services in the area of SLD by gender. The percentages were calculated using the proportion to percent method with the number of

eligible students in the subgroup divided by the total students eligible as well as with the number of eligible students in the subgroup divided by the number of students referred in the subgroup.

The percentages of male students determined eligible as SLD for School A are presented in Table 31.

Table 31

Number of Eligible Male Students – School A

	Number Subgroup Referred	Percentage Eligible of Subgroup Referred	Number Subgroup Eligible	Total Students Eligible	Percentage Students Eligible in Subgroup
2009-2010	9	22.2	2	3	67.0
2010-2011	10	10.0	1	1	100.0
2011-2012	10	10.0	1	1	100.0
2012-2013	12	41.2	5	5	100.0
2013-2014	18	44.4	8	9	88.9
2014-2015	16	12.5	2	6	33.3
2015-2016	14	14.3	2	2	100.0
2016-2017	14	21.4	3	5	60.0
2017-2018	12	41.7	5	6	83.3

During the 2010-2011, 2011-2012, 2012-2013, and 2015-2016 school years, 100.0% of the students identified as having an SLD at School A were male. The number of male students referred for special education evaluations was significantly more than the number of male students determined eligible in the category of SLD during all years studied at School A. During all years of the study, except for the 2014-2015 school year, the majority of students identified as having an SLD were male. Only one third of the students eligible as having an SLD at School A were male during the 2014-2015 school

year.

The percentages of female students determined eligible as SLD for School A are presented in Table 32.

Table 32

Number of Eligible Female Students – School A

	Number Subgroup Referred	Percentage Eligible of Subgroup Referred	Number Subgroup Eligible	Total Students Eligible	Percentage Students Eligible in Subgroup
2009-2010	2	50.0	1	3	33.0
2010-2011	5	0	0	1	0
2011-2012	6	0	0	1	0
2012-2013	5	0	0	5	0
2013-2014	9	11.1	1	9	11.1
2014-2015	8	50.0	4	6	66.7
2015-2016	3	0	0	2	0
2016-2017	8	25.0	2	5	40.0
2017-2018	8	12.5	1	6	16.7

Female students were not identified as having an SLD during the 2010-2011, 2011-2012, 2012-2013, and 2015-2016 school years. The percentage of female students referred was equitable to the percentage of female students eligible during the 2013-2014 school year, meaning the same percentage of students eligible of those referred in the subgroup was equal to the percentage of students eligible in the subgroup. During the 2017-2018 school year, significantly more females were referred for special education evaluations than were identified as having an SLD.

The percentages of male students eligible as SLD for School B are presented in Table 33.

Table 33

Number of Eligible Male Students – School B

	Number Subgroup Referred	Percentage Eligible of Subgroup Referred	Number Subgroup Eligible	Total Students Eligible	Percentage Students Eligible in Subgroup
2009-2010	11	27.3	3	5	60.0
2010-2011	18	5.6	1	2	50.0
2011-2012	21	14.3	3	4	75.0
2012-2013	20	30.0	6	8	75.0
2013-2014	19	21.1	4	6	66.7
2014-2015	11	18.2	2	4	50.0
2015-2016	21	23.8	5	7	71.4
2016-2017	20	30.0	6	8	75.0
2017-2018	16	37.5	6	7	85.7

Data analysis for School B consisted of dividing the number of eligible male students in the subgroup by the total students eligible as well as dividing the number of eligible male students in the subgroup by the number of students referred in the subgroup. Across all years of the study, significantly more male students were referred for special education evaluations than identified as having an SLD. Data also indicated that more males were identified as having an SLD at School B than females during each year of the study.

The percentages of female students eligible as SLD for School B are presented in Table 34.

Table 34

Number of Eligible Female Students – School B

	Number Subgroup Referred	Percentage Eligible of Subgroup Referred	Number Subgroup Eligible	Total Students Eligible	Percentage Students Eligible in Subgroup
2009-2010	6	33.3	2	5	40.0
2010-2011	10	10.0	1	2	50.0
2011-2012	4	25.0	1	4	25.0
2012-2013	8	25.0	2	8	25.0
2013-2014	10	20.0	2	6	33.3
2014-2015	12	16.7	2	4	50.0
2015-2016	8	25.0	2	7	28.6
2016-2017	7	28.6	2	8	25.0
2017-2018	12	8.3	1	7	14.3

Across all years studied, significantly more female students were referred for special education evaluations than determined eligible for the category of SLD. During the 2011-2012 and 2012-2013 school years, 25.0% of the female students who were referred were identified as having an SLD at School B. Also during those years, 25.0% of females were identified as having an SLD.

During the study, Asian students were not identified as having an SLD at Schools A and B. Multi-racial students were not identified as having an SLD at School B across the years of the study. At School A, the small sample size of the Hispanic and multi-racial subgroups led to the findings being inconclusive. The sample size of Hispanic students was also small at School B, which yielded inconclusive results and limited the generalizability of the study.

Black students were determined to be eligible for special education services in the

category of SLD in 88.9% of the years studied at both Schools A and B. During the 2009-2010 and 2011-2012 school years at School A, the percentage of Black students referred was equitable to the percentage of Black students identified as having an SLD. At School B, the percentage of Black students referred for special education evaluations was equitable to the percentage of students identified as having an SLD during the 2009-2010 and 2015-2016 school years. White students were eligible as having an SLD in 77.8% of the years studied at School A and across all of the years at School B. Overall, male students were identified as having an SLD more than females at both schools.

Educator Perceptions of MTSS on Special Education Identification

The qualitative data were obtained from focus groups and interviews at the two targeted schools. Two focus groups were conducted at each school. Specifically, one focus group consisted of general education teachers, and the other focus group consisted of interventionists at each school. The special education teachers at each school were interviewed using the same questions that were used in the focus groups. All participants spoke openly about their individual experiences with the MTSS framework. Before collecting qualitative data, the researcher established a priori codes for analyzing and comparing the collected information. MTSS is an umbrella term that describes the subcomponents of the framework. The a priori codes or subcomponents of the MTSS framework are the RTI model, leadership, collaboration, professional development, teamwork, parental action, curriculum design, and PBIS (University of South Florida, n.d.). Themes and connections obtained from the qualitative data were correlated to the research questions.

General education teachers from each grade level participated in the focus groups.

The researcher sent an email to each grade level of teachers asking for voluntary participation for the study as well as to all special education teachers and interventionists (Appendix A). The first general education teacher from each grade level to respond to the email was selected to participate in the study. Due to the small number of interventionists and special education teachers at each school, all were invited to participate in the study. The interventionists at each school comprised a focus group, and the special education teachers were interviewed individually. Demographic data were collected using the Focus Group Participant Demographic Survey (Appendix D). The demographic data for participants at School A are described in Table 35.

Table 35

Demographic Data for School A

Participant	Gender	Race	Position	Years of Experience	Highest Degree
1	Female	White	Kindergarten Teacher	5	Bachelor's Degree
2	Female	White	First-Grade Teacher	24	Bachelor's Degree
3	Female	White	Second-Grade Teacher	17	Bachelor's Degree
4	Female	White	Third-Grade Teacher	8	Bachelor's Degree
5	Female	White	Fourth-Grade Teacher	26	Bachelor's Degree with National Board Certification
6	Female	White	Interventionist (Retired Classroom Teacher)	38	Master of Education
7	Female	White	Interventionist (Retired Classroom Teacher)	31	Bachelor's Degree
8	Female	White	Special Education Teacher	3	Bachelor's Degree

Focus groups and interviews were conducted to obtain the perspectives of general education teachers, interventionists, and special education teachers at each school. Focus groups and interviews took place in classrooms that were located away from the school office. Participants at School A were willing to participate in the focus groups and interviews. In regard to teacher demographics at School A, all certified staff and classroom teachers were White females with the exception of the physical education teacher who was an Asian male. The demographic data for participants at School B are described in Table 36.

Table 36

Demographic Data for School B

Participant	Gender	Race	Position	Years of Experience	Highest Degree
9	Female	White	Kindergarten Teacher	18	Master of Education Degree
10	Female	White	First-Grade Teacher	10	Bachelor's Degree
11	Female	White	Second-Grade Teacher	4	Bachelor's Degree
12	Female	White	Third-Grade Teacher	23	Master of Education with National Board Certification
13	Female	White	Fourth-Grade Teacher	26	Education Specialist Degree with National Board Certification
14	Female	White	Fifth-Grade Teacher	21	Bachelor's Degree
15	Female	White	Interventionist/Title I Teacher	19	Master of Education Degree
16	Female	White	Special Education Teacher	8	Bachelor's Degree

Participants at School B were willing to participate in focus groups and interviews; however, one of the special education teachers and one interventionist decided not to participate due to before- and after-school responsibilities. Teacher demographics at School B are composed of all White female classroom teachers and certified staff, with the exception of the physical education teacher who is a White male.

Prior to collecting the qualitative data, a priori codes based on research were selected by the researcher. The a priori codes for the study were RTI, teamwork, professional development, school/community collaboration, parental action, curriculum design, and PBIS, which are the subcomponents of the MTSS framework (Positive

Behavioral Interventions and Supports Technical Assistance Center, n.d.). The focus groups and interviews were conducted and recorded by the researcher and notes were taken by the researcher and assistant moderator. Qualitative data were transcribed by both the researcher and assistant moderator to support reliability.

Upon completion of transcribing the qualitative data, the researcher analyzed the data and identified common themes. In analyzing the qualitative data, the researcher initially chunked the data into smaller sections. When chunking the data, the researcher read the data several times and summarized what was occurring in the data by categories. The researcher then gave the smaller sections of data informal labels. Then, the researcher read and reread the data more and applied the a prior codes to identify connections in the qualitative data. After rereading the data, the researcher then developed the themes. Table 37 presents how the themes emerged from the a priori codes and example responses.

Table 37

Emergent Themes Based on Analysis of Open-Ended Responses

Coding	Example Quotes	Emergent Themes
Response to Intervention (RTI) Positive Behavior Intervention and Support (PBIS),	"RTI and MTSS are different terms that have the same meaning." "RTI and MTSS are interchanged in conversation and in the literature that is read. In our district, we initially used the Response to Intervention model, but then the MTSS framework came along." "RTI and PBIS are the same. One is for academics and one is for behavior. MTSS is another name for RTI."	Theme 1: Confusion in understanding differences between MTSS and RTI and how they work together
School/Community Collaboration Parental Action	"Back then, the belief was that if students were not understanding the material being taught, they needed to go to the special education classroom. Now education is more tailored toward individual students. Parents are more involved now as well." "The classroom teachers are the ones that have to see the students drowning day after day because they are not getting the special education services that they need." "The classroom teacher who does the interventions does not see the results of the referral. It's the teacher in the next grade level that reaps the benefits of the hard work of the referring teacher."	Theme 2: Fewer students are referred to MTSS and in turn, fewer students are eligible for special education services
Professional Development	"When I was a classroom teacher, I found all of the changes very frustrating. The students are the ones who suffer because of the teacher and school staff is not comfortable implementing the process, effective instructional interventions are not going to occur." "Every year, the MTSS forms are changed. Now, everything is online which is something else to learn." "Nothing with MTSS is ever the same from year to year. "	Theme 3: Frustration with frequent changes in MTSS at the district and state levels
Curriculum Design	"Years ago when I first began teaching, special education students were sent to another classroom and forgotten about because they were their responsibility-not mine. Now, special education students are first and foremost, the classroom teacher's responsibility because they are legally entitled to the core curriculum." "I have no time for fluff during class time. Every single second of my instructional day is accounted for." "Now students are saved because we can find the skill deficits and then can go back and provide interventions in those areas."	Theme 4: More effective teachers as a result of the MTSS framework

After analyzing the qualitative data, the following themes were present in focus

groups and interviews:

- Some educators do not understand the differences between the MTSS framework and the RTI model and how the two work together.
- Some educators perceive that fewer students are referred for special education evaluations as a result of the MTSS framework. In turn, the educators perceive that special education eligibility rates have decreased due to implementation of the MTSS framework.
- Some educators are frustrated with the frequent changes in how the MTSS framework should be implemented.
- Some educators believe that the MTSS framework has helped them become more effective classroom teachers.

The initial theme that emerged was that educators do not understand the RTI framework is a subcomponent of the MTSS framework and how the two work together. The majority of the participants, including the interventionists and special education teachers, described MTSS and RTI as if they function separately; however, 12.5% of the participants at School A and 37.5% of the participants at School B demonstrated an understanding of how the RTI model operates under the MTSS umbrella. Participants described the MTSS framework as being data-driven and a problem-solving, team-oriented approach. During discussion about the RTI model, words and phrases such as tiers that increase with intensity, fluid movement, pyramid, progress monitoring data, universal screening, data-driven, and research-based came up in conversation. Participants spoke of how confusing the acronyms RTI and MTSS are to parents and educators. Participant 10 stated, “RTI and MTSS are interchanged in conversation and in

the literature that is read. In our district, we initially used the RTI model, but then the MTSS framework came along." According to Participant 8, "RTI and MTSS are different terms that have the same meaning." Participant 16 explained that RTI and PBIS are now a part of MTSS and that students can be placed on tiers and receive interventions for areas of skill deficits.

Another theme that became apparent was that educators perceive fewer students are referred for special education evaluations as a result of the MTSS framework. All participants at School A and 62.5% of participants at School B noted that fewer students are identified as needing special education services as a result of fewer students being referred for special education evaluations by the school problem-solving teams. Participating classroom teachers shared frustration that with the interventions and progress monitoring that is required with the framework, fewer students are referred for special education evaluations. Classroom teachers spoke of how long it takes to get a student identified as needing special education services. Participant 14 shared, "It can be frustrating when we see students struggling every day in our classrooms, but they are not eligible for special education services." Participant 3 articulated that her grade level is frustrated with the length of time it takes to get students special education instruction. "Students are negatively impacted because the problem-solving team is not referring to students even after we have collected extensive amounts of data and changed interventions. Our students are continuously losing ground." Participant 1 interjected, "By the time students do get special education services, they have so many academic difficulties that have accumulated over time that they will never be able to make adequate progress or get out of the program."

Of the three participants at School B who described the required interventions and progress monitoring as being beneficial to students, one was a classroom teacher, one was an interventionist, and one was a special education teacher. Participant 13 noted that throughout the years of implementing the framework, the mindset of classroom teachers has shifted from viewing the special education program as a "cure" for students. "We have come a long way. We now see that special education doesn't magically 'cure' these students. It's the intensive interventions that get students to where they need to be academically and behaviorally." The interventionist and special education teacher also spoke of the benefits of the MTSS framework. The special education teacher of School B responded by saying,

> I am glad that the problem-solving team insists on collecting lots of progress monitoring data. I wish classroom teachers understood that just because a child is a slow learner, it doesn't mean that they need the special education program.

Special education is the most restrictive placement that a student can have. Participant 15 added that early in her teaching career, the focus was on those students who were "getting it." She stated, "Back then, the belief was that if students were not understanding the material being taught, they needed to go to the special education classroom. Now education is more individualized and tailored to the students."

A third theme that emerged from the focus groups and interviews is that educators are frustrated with the frequent changes in how the MTSS framework should be implemented. All participants at Schools A and B noted that the frequent changes made at the district and state levels are a barrier for effective MTSS implementation at their schools. Participant 12 verbalized that School B has made significant headway in being

successful in implementing MTSS since it was initially started in 2009: “Getting to where we are now as taken buy-in from school staff, good leadership, parental involvement, and good collaboration amongst teachers; however, this journey has not been without bumps in the road.” She and other participants continued to explain that teachers are frustrated because changes are always being made to the framework.

Changes that were described by the participants included going from paper forms to an online database, the frequency and duration of progress monitoring, and the lack of consistency to the process from year to year. The changes mentioned by participants are more of procedural changes rather than changes to the actual framework itself. According to Participant 14, while the general concept of the MTSS framework does not change, the procedural changes that are made at the state and district levels slow school-based implementation. One of the interventionists from School A, Participant 7, mentioned that each year, the North Carolina Department of Public Instruction is constantly making changes to MTSS:

> When I was a classroom teacher, I found all of the changes very frustrating. The students are the ones who suffer because if the teacher and school staff are not comfortable implementing the process, effective instructional interventions are not going to occur.

The final theme that came about from the qualitative data is that all participants at both schools agreed that the RTI model has improved how they deliver instruction within their classrooms. Participant 5 articulated that due to MTSS, she was more resourceful in ensuring that she used her instructional time wisely: “Now classroom teachers are required to do all of the interventions for the first and second tiers; I have no time for

fluff during class time. Every single second of my instructional day is accounted for." Participant 2 verbalized that RTI has forced her to become an expert in differentiating the curriculum and teaching students how to use numerous strategies for learning content: "If students do not make it into the special education program, at least they will have some of the necessary tools in their belts for learning." The classroom teachers also spoke of having more of an idea about each student's strengths and deficits and how to address those areas instructionally as a result of RTI. Participant 9 stated, "Within my classroom, instructional planning is data-driven, and flexible grouping is also used to ensure that all needs are met. Very rarely is whole group instruction used."

Participant 10 articulated that as a result of the RTI model, she feels more responsible for each student's needs: "As the teacher, I am linked to each student's progress and what is occurring in my classroom." The other participants agreed with her statement about being connected to student data. Participant 12 noted that the general education teacher is responsible for teaching grade-level core instruction: "Students with disabilities are general education students first and then special education students. They are legally entitled to the core curriculum regardless of disability." Participant 13 added,

> Years ago, teachers worked long enough to get students in the special education program. Then, teachers sent those students off to the special education classroom and said, "They belong to you, not me." Now classroom teachers are required to take responsibility for the education of all students. That is an excellent thing!"

The classroom teachers also spoke of having more of an idea about each student's strengths and deficits and how to address those areas instructionally as a result of RTI.

Participant 9 stated, “Within my classroom, instructional planning is data-driven, and flexible grouping is also used to ensure that all needs are met. Very rarely is whole group instruction used.”

After quantitative and qualitative data were analyzed, the researcher met back with the focus groups and individual special education teachers via FaceTime. The researcher shared the quantitative data and qualitative data with the participants prior to the meeting to provide them with time for review. Participants were concerned about the contradictions between the quantitative data and their perceptions of the MTSS framework. Participants discussed how the quantitative data did not show a clear increase or decrease in the students referred for special education evaluations and in the students identified as needing special education services at Schools A and B from 2009-2010 to the 2017-2018 school year. During discussion, it was noted by Participant 13 that the contradiction between quantitative data and qualitative data could stem from fewer students needing the more intensive interventions of the special education program because they are getting the additional help they need within the general education classroom and making progress at tiers 2 and 3. If students are making progress on the tiers, a referral would not be made by the problem-solving team for a special education evaluation. Only those students who are not making adequate progress should be referred for special education testing (North Carolina Department of Public Instruction, 2015; Positive Behavioral Interventions and Supports Technical Assistance Center, n.d.).

Discussion about the RTI model indicated that the participants had an understanding of the three levels of tiers/interventions. Participant 1 stated, “All students get the core curriculum or first-tier level, students on the second tier require a little extra

help, and the third tier is for those students who need intensive interventions and an additional level of support." The participants also demonstrated an understanding that they were responsible for teaching the core curriculum or the first tier to all students. The participants shared that classroom teachers also delivered the second level of tier interventions at both schools and that they often collaborated with support staff about how to best deliver those interventions. The participants agreed that the intensity of interventions needed at the third tier required the expertise of interventionists outside of the classroom.

Participant 4 shared that RTI and MTSS are processes that work together in using data to place students on the appropriate tier for interventions based on their individual needs. She continued by stating, "I have worked at another school, and it seems that RTI is not as embedded as it should be at this school." This statement made by Participant 4 suggests that the implementation of the MTSS framework at School A is not as good as the reputation the school has within the district for successful framework implementation. According to Participant 3, RTI is for all students: "The most successful part of the RTI model at our school is WIN (What I Need) time. All students go to different WIN groups based on their individual needs." She continued to say that small group instruction is key in delivering research-based instruction and interventions.

The misunderstanding of how the RTI model and MTSS framework work together may be contributing to educator frustration over the length of time students remain in the different tiers before being referred for a special education evaluation. Participant 3 articulated that her grade level is frustrated with the length of time it takes to get students special education instruction: "Students are negatively impacted because the

problem-solving team is not referring to students even after we have collected extensive amounts of data and changed interventions. Our students are continuously losing ground." Participant 1 interjected, "By the time students do get special education services, they have so many academic difficulties that have accumulated over time that they will never be able to make adequate progress or get out of the program." Participant 12 added that the problem-solving team refers students for special education evaluations when they are not making adequate progress with intensive interventions: "The referral process takes a very long time. One of my students is in third grade now and has been on Tier 3 since kindergarten."

If educators do not understand the MTSS framework and how to correctly implement processes such as interventions and progress monitoring within their classrooms, this results in delays in referrals and eligibility for special education services. In turn, educator frustrations build because they do not see the root of the problem as being that the MTSS framework is not being implemented correctly. They see the root of the problem as their students not being referred for special education evaluations and not receiving the specially designed instruction of the special education program. Educator frustrations from the frequent changes implemented at the district and state levels also ultimately stem from their inconsistent knowledge of the MTSS framework and how it should be correctly implemented. Educators who have not successfully mastered the foundational skills for implementation are not going to be receptive to change and building upon their existing skills. According to Morgan (2010), a clear set of objectives and a specific plan for monitoring implementation is needed for success. Morgan also maintained that good communication is critical for educators to understand the

importance of the change process.

While the classroom teachers, special education teachers, and interventionists who participated in the study shared that the MTSS framework has improved the quality of their instruction, themes related to an inconsistent knowledge of the framework and frustration with change emerged. Qualitative data suggested that the participants did not demonstrate an understanding of how the MTSS framework and RTI model work together. Due to this misunderstanding of the framework, participants viewed special education eligibility as the goal of the MTSS framework rather than student growth from research-based interventions. Data analysis also revealed that participants were frustrated with changes made at the state and local levels about how the MTSS should be implemented. The participants shared that their input was not requested before changes were made.

Summary

The purpose of this study was to investigate the effect of the MTSS framework on special education referrals and eligibility of special education services as SLD. During the analysis of quantitative data, the percentage of students referred for special education evaluations in comparison to total school enrollment per year was calculated and analyzed for each school. Data for the Asian, Black, Hispanic, multi-racial, White, male, and female subgroups were analyzed. In determining subgroup data, the number of referred students was divided by the total school population and also the total number of referred students.

To examine how the percentage of students eligible for special education services in the area of SLD compared to the total school enrollment at each school, percentages

were calculated using the proportion to percent method with the ratio of students identified as learning disabled to the total student enrollment for each school year. In determining the percentage of students eligible of those referred for each school, the number of students eligible was divided by the number referred. Disaggregated data were also analyzed to determine which subgroups had the most students identified as SLD each school year. The subgroup percentages were calculated using the proportion to percent method with the number of eligible students in the subgroup divided by the total students eligible as well as with the number of eligible students in the subgroup divided by the number of students referred in the subgroup.

The researcher determined that the quantitative data were inconclusive for the Asian, Hispanic, and multi-racial subgroups at both schools and did not establish a clear increase or decrease in referrals or the identification of SLDs as a result of the MTSS framework. Results were inconclusive due to the small sample populations used in the study. At School A, the Black subgroup was overrepresented in 55.6% of the years studied, whereas Black students were overrepresented in 77.8% of the years studied. White students were underrepresented in all of the years studied at School B and in 5 of the years studied at School A. Data analysis revealed that males were identified as having an SLD more than females across the entire study at both Schools A and B.

Teachers and interventionists were surprised there was not a clear downward trend in the referral and eligibility of students because they expressed strongly that the special education referral rates and the rates of students identified as needing special education services at their schools had decreased with the MTSS framework. Teachers and interventionists maintained that students who needed special education services at

their schools were not referred in a timely manner, which led to fewer students being referred and identified. With the tier structure of the MTSS framework, students are not referred for special education testing as long as they are making adequate progress (Schaffer, 2017). Other themes that emerged from the qualitative data include educators not understanding how the MTSS framework and the RTI model work together, frustration with frequent changes at the district and state levels in how the MTSS framework is implemented, and an improvement in classroom instruction as a result of the MTSS framework.

Chapter 5: Discussion

Overview

The purpose of this explanatory sequential mixed-methods study was to examine the effect of the MTSS framework on special education referral rates and the eligibility of special education services in the area of SLD at two elementary schools. This study also investigated educator perceptions of the impact the MTSS framework has had on special education referral rates and eligibility.

Three research questions guided this mixed-methods study.

1. What effect does implementation of the MTSS framework have on referral rates for special education eligibility?
2. What effect does implementation of the MTSS framework have on the rate of students eligible for special education services in the area of SLD?
3. What are the perceptions of teachers and administrators about the MTSS framework in determining special education identification?

Archival quantitative data focusing on the number of special education referrals from 2009-2010 to the 2017-2018 school year were examined as well as the data showing the number of students determined eligible for special education services in the area of SLDs. The archival quantitative data used in the study were obtained from the state's data management system. The data were not subjective, and no subjects counted in the data could be identified.

Descriptive statistics were used to summarize and analyze the quantitative data. For the first research question, the number of special education referrals was compared to the total school enrollment. Percentages were calculated using the proportion to percent

method with the number of special education referrals divided by the total student enrollment for each school year. To examine disaggregated data for referrals, the proportion to percent method was used with the number of referred students divided by the total school population and the total number of referred students. To examine how the percentage of students eligible for special education services in the area of SLD compared to the total school enrollment at each school, percentages were calculated using the proportion to percent method with the ratio of students identified as learning disabled to the total student enrollment for each school year. In determining the percentage of students eligible of those referred for each school, the number of students eligible was divided by the number referred. For the disaggregated data, percentages were calculated using the proportion to percent method with the number of eligible students in the subgroup divided by the total students eligible as well as with the number of eligible students in the subgroup divided by the number of students referred in the subgroup.

Focus groups and interviews were conducted with educators at both schools in order to collect qualitative data about the effect of the MTSS framework on special education referrals and eligibility of special education services in the area of SLD. At each school, one focus group with general education teachers was conducted in addition to a focus group consisting of interventionists. The special education teachers from each school were interviewed individually using the same questions that were used with the focus groups. During the focus groups and interviews, the researcher recorded the sessions and took notes and used an assistant moderator who took notes as well.

Data from the focus groups and interviews were recorded and transcribed. To maintain reliability, the researcher and assistant moderator went through the transcripts to

ensure that there were no obvious mistakes. Member checking was used to ensure internal validity after the data were transcribed (Creswell & Creswell, 2018). The researcher sent the qualitative data back to the focus group and interview participants for review to make sure the data continued to be authentic and accurate.

Qualitative data gathered from focus groups and interviews were analyzed using chunking. While chunking the data, the researcher gave the small sections of data informal labels. After reading and rereading the small sections of data, the researcher applied a priori codes to the qualitative data. The a priori codes were determined before data analysis and based on theory (Billups, n.d.). The theory behind this study was the MTSS, which is a framework consisting of research-based interventions individually designed to address behavioral and academic skill deficits (Positive Behavioral Interventions and Supports Technical Assistance Center, n.d.). The a priori codes for the study are the subcomponents of the MTSS framework, which are RTI, teamwork, professional development, school/community collaboration, parental action, curriculum design, and PBIS. After the researcher went through the process of reducing the data from chunks to clusters and codes, themes that emerged from the data were used to answer the research questions (Creswell & Creswell, 2018). The researcher sent the data back to the focus group and interview participants again for review. After participants reviewed the analyzed data, the researcher and assistant moderator met back with the focus groups and interview participants via FaceTime to reexamine the data.

Discussion of Results

The impact of MTSS on special education referral rates. The first research question focused on the impact of the MTSS framework on referral rates for special

education eligibility. Percentages were calculated using the proportion to percent method with the number of special education referrals divided by the total student enrollment for each school year. To examine how the number of special education referrals compared to the total school enrollment, percentages were calculated using the proportion to percent method with the number of special education referrals being divided by the total student enrollment for each school year.

Data show there was an increase in the percentage of special education referrals at Schools A and B from 2009-2010 to the 2017-2018 school year; however, the percentages did not show a consistent upward trend. Instead, unexplained spikes and dips were present across the years. The data were therefore inconclusive. These findings contradicted research which suggested that the MTSS framework and RTI models decrease special education referral rates. This study is limited because the district did not collect referral and eligibility data before the MTSS framework was implemented, thus referral and eligibility rates could only be examined since the 2009-2010 school year when the framework was first implemented in the district.

A study conducted by Jones (n.d.) indicated that with the implementation of an RTI model, special education referral rates decreased by 50% the first year and by 50% again in the second year of implementation. Research-based instruction, intensive interventions, and regular progress monitoring decrease unnecessary special education referrals (Fuchs & Fuchs, 2006). This study also focused on the impact of the MTSS framework on the referral rates of racial/ethnic and gender subgroups.

Quantitative data from this study focused on the Asian, Black, Hispanic, multi-racial, White, male, and female subgroups. At both schools, inequity occurred with

Black students being overrepresented in the referral for special education evaluations. Across the years of the study, at both Schools A and B, male students were overrepresented and referred for special education evaluations more than females. Due to the small sample populations of Asian, Hispanic, and multi-racial students, results from data analysis for these subgroups were inconclusive.

The impact of MTSS on eligibility of SLDs. The second research question investigated the impact of the MTSS framework on the rate of students eligible for special education services in the area of SLD. For the second research question, percentages were calculated using the proportion to percent method with the ratio of students identified as learning disabled to the total student enrollment for each school year. In determining the percentage of students eligible of those referred for each school, the number of students eligible was divided by the number referred. Data pertaining to student eligibility for special education services in the category of SLD did not show a consistent increase or decrease. Therefore, a consistent trend could not be determined.

For the disaggregated data, percentages were calculated using the proportion to percent method with the number of eligible students in the subgroup divided by the total students eligible. The number of students eligible was also divided by the number of students referred in the subgroup. At both schools, Black students were identified as having SLDs more than white students. In addition, male students were eligible for special education services in the category of SLD more frequently than female students. Due to the small sample sizes, data pertaining to the Asian, Hispanic, and multi-racial subgroups are inconclusive and not generalizable.

The findings of this study support data suggesting that minority students are

placed in special education programs more than their White counterparts. During the Obama administration, the "My Brother's Keeper" task force was created to address the disproportionality of minority males being identified as students with disabilities more than their peer groups (White House: Office of the Press Secretary, 2015). U.S. Secretary of Education John B. King, Jr. stated, "Children of color with disabilities are overrepresented within the special education population, and the contrast in how frequently they are disciplined is even starker" (Martin, n.d., para. 2).

Educator perceptions of the impact of MTSS on special education identification. The final research question studied the perceptions of educators about the MTSS framework in determining special education identification. The qualitative data were collected through focus groups and interviews using six focus group questions. Due to the interchanging of the terms MTSS and RTI in literature and professional development, qualitative data indicated that the participants are unsure of how the two systems work together. The MTSS has a broader range addressing academic, social, and behavioral needs, whereas RTI focuses on the educational deficits of struggling students (Positive Behavioral Interventions and Supports Technical Assistance Center, n.d.).

Successful implementation of the MTSS framework includes effective professional development and coaching (North Carolina Department of Public Instruction, 2018a). According to the National Education Association (n.d.), successful professional learning supports a culture for ongoing advancement for all those involved in the learning process as well as expands the achievement of all students, including those with different abilities, learning styles, and educational needs. The National Education Association (n.d.) asserted, "One of the most compelling reasons is that student

achievement depends on rigorous standards and a knowledgeable education team" (p. 2).

Some educators at both schools expressed frustration with the time it takes for a student to be referred for a special education evaluation. Participants disclosed that depending on how much growth a student makes, historically, it has taken up to 2-3 years for the problem-solving team to make a referral for testing. According to the North Carolina Department of Public Instruction (2016), the MTSS framework does not always result in a special education referral. Research conducted by Brown-Chidsey and Steege (2010) maintained that students spent an average of 8-15 weeks in tier 2 and 20+ weeks in tier 3. Progression through the tiers is dependent upon the rate of progress students make on grade-level instruction (Positive Behavioral Interventions and Supports Technical Assistance Center, n.d.).

IDEA Child Find laws require school districts to identify, find, and evaluate any student they suspect of having a disability (IDEA, 2004). Federal regulation addressing special education referrals asserts that schools must seek parental consent for a special education evaluation when a student does not make adequate progress after participating in research-based instruction for a sufficient amount of time (Martin, n.d.). The MTSS framework brings about questions regarding the length of time a student should receive interventions before being referred for a special education evaluation (Martin, n.d.). Teachers perceived that the number of students referred and eligible for special education services at their schools has decreased because of the length of time it takes for a student to go through the process; however, research from the University of South Florida (n.d.) asserted that the goal of the MTSS framework should not be acquiring special education services for students but to ensure all students make adequate progress in areas of skill

deficits. Cortiella and Horowitz (2014) asserted that data-driven decision-making, the fidelity of evidence-based interventions, parental involvement, collaboration, and sound leadership could result in students receiving what they need to make adequate progress without being referred for special education evaluation.

According to Hall (2018), successful MTSS implementation requires a culture of empowerment and collective responsibility. Incorporating the values of inclusion and equity into school culture empowers teachers and staff to value diversity and to develop the mindset that all students can learn (Hall & Hord, 2015). According to Gruenert and Whitaker (2015), "if educators respond by critically examining their own behaviors, they may end up shifting the culture in a positive direction" (p. 140).

Another theme that emerged was the frustration with frequent changes implemented at the district and state levels to the MTSS framework. Participants maintained that the frequent changes passed down to them resulted in continuous uncertainty about how the framework should be implemented, further hindering student progress. Concerns expressed by the participants centered on the amount of time it would take them to master the new procedures and the anxiety these changes caused. Organization leaders are the first step in the change process and are expected to motivate and lead those individuals working with them to change (Fullan, 2001). Since effective change begins at the individual level, leaders must have a mastery of concepts before supporting those working with them (Couros, 2015; Massachusetts Department of Elementary and Secondary Education, n.d.).

The participants of focus groups and interviews at Schools A and B shared that the RTI model has resulted in them becoming better at differentiating the core curriculum

for struggling learners. Teachers noted that most of the core instruction is delivered in flexible grouping and differentiated on a daily basis for those students who are working off grade level and cannot access grade-level instruction. According to Kovaleski et al. (2013), tier 1 instruction is suitable for all learners and incorporates differentiation of assignments, reteaching and remediation, scaffolding, and ongoing assessment.

Conclusions

The MTSS framework has significantly impacted the way instruction is delivered and how students are identified as needing special education services. The MTSS is a framework for all students that incorporates universal screening, data-driven decision-making, tiered evidence-based instruction, and progress monitoring; and can be used for academics, social-emotional, and behavioral skill deficits. North Carolina is one of several states that requires the use of the MTSS framework/RTI model in the identification process for an SLD, effective July 1, 2020. Classroom teachers are expected to implement interventions at the first and second tiers and collect progress monitoring data with fidelity before students are referred for special education evaluations.

As a result of intensive interventions being delivered before students are referred for special education services, the assumption is that with the MTSS framework and RTI model, referral rates and eligibility for special education services will decline. With these assumptions in mind, this study consisted of analyzed archival quantitative data obtained from the statewide data management system about special education referral and eligibility rates from 2009-2010 to the 2017-2018 school year. This study also consisted of qualitative data obtained through focus groups and interviews at two schools about

teacher perceptions of the MTSS framework.

During focus group sessions and interviews, educators perceived that fewer students are referred for special education evaluations as a result of the MTSS framework. In turn, they also believed that fewer students are being identified as eligible for special education services as a result of the MTSS framework. Quantitative data analysis suggested that there was a small increase in the percentage of special education referrals; however, the percentages did not present a consistent trend from 2009-2010 to the 2017-2018 school year. In review of eligibility rates, the data did not indicate a consistent upward or downward trend. When compared to the total school population, data focusing on the eligibility for special education services in the category of SLD did not present a consistent increase or decrease.

Educators at both schools expressed frustration because fewer students are referred for special education evaluations and identified for special education services. These teachers indicated that the MTSS process takes a long time before students can be referred by the problem-solving team. Educator perceptions about fewer students being referred for special education evaluations and identified as having a learning disability could be due to fewer students needing the intensive supports of the special education program because they are making adequate progress while receiving classroom and tier interventions.

The analysis of qualitative data revealed that some educators do not understand the differences between the MTSS framework and the RTI model and how the two work together. Some participants perceive RTI and MTSS as having the same meaning. This misunderstanding of the MTSS framework may be contributing to educator frustration

over the length of time students remain in the different tiers before being referred for a special education evaluation. Danielson, Doolittle, and Bradley (2007) maintained that capacity building and continued professional development are necessary for successful implementation strategies and a culture of change to develop. The authors asserted that individual change only occurs when individuals self-reflect on their classroom instruction and professional development (Danielson et al., 2007).

Limitations

The purpose of this study was to examine the effect of the MTSS framework on special education referral rates and the eligibility of special education services in the category of SLD. The MTSS framework was implemented within the district at the beginning of the 2009-2010 school year. Data on the number of referrals for special education services and the identification of students with SLDs per school was not collected before the 2009-2010 school year. The lack of baseline data was a limitation of this study.

Another limitation of this study was that data about the socioeconomic status of the students could not be obtained due to the confidential nature of the information. The statewide special education database that reported the quantitative data did not include the free/reduced lunch status for each of the students. With student names not being involved with the data, the researcher could not go back and research the free/reduced lunch status of the students. Students of low socioeconomic status are more likely to be placed in special education programs than their wealthy peers (Tatters, 2019). Low-income students who are identified as having a disability are more likely to be placed in a separate setting than their peers (Tatters, 2019).

Another limitation of the study is the archival quantitative data are no longer accessible online on the statewide special education database. The statewide special education database, CECAS, was used in collecting archival quantitative data. In the fall of 2019, the state of North Carolina transitioned from using CECAS to the new statewide database, ECATS. Effective in November 2019, CECAS ceased to exist. Indicator data before the fall of 2019 did not transfer over to ECATS. The archival data are now only available in paper format.

The study concerns the use of focus groups and interviews for collecting qualitative data. Some participants may have not honestly shared their views publicly within the group setting, limiting data that would be beneficial to the study.

Another delimitation of the study is that the study was limited to two elementary schools, thus limiting the generalizability of the findings to a larger population. Due to small populations of certain subgroups included in the study, the quantitative data focusing on the referral rates and special education eligibility rates of minority subgroups are inflated, thus misrepresenting the data and reducing the power of the study.

Implications for Practice

In an age of accountability where educators are responsible for all students to make adequate progress, the MTSS framework has the potential of improving the outcomes of all students (IDEA, 2004; U.S. Department of Education, 2004). Historically, struggling students were referred for special education evaluations without first delivering the needed academic and behavioral interventions early in hopes of preventing long-term failure (Schaffer, 2017). Students were often misidentified or under-identified historically due to the inconsistency with educational approaches.

(Restori et al., 2009).

The *Endrew F. v Douglas County School District* ruling requires that school districts are even more accountable for keeping track of student progress and changing interventions when inadequate progress is demonstrated. As required by IDEA, the least restrictive environment offers a continuum of services that are fluid and change in response to student growth (Lemons, Vaughn, Wexler, Kearns, & Sinclair, 2018). The misidentification of students as having a disability and placement in more restrictive educational settings can lead to stigma, increased association with the juvenile justice system, and decreased educational opportunity, decreased graduation rates, and lowered access to the core curriculum (Raj, 2016). Students who are placed in more restrictive educational settings are less likely to move back into a less restrictive setting (Lemons, Vaughn, Wexler, Kearns, & Sinclair, 2018). To prevent the misidentification or overidentification of disabilities, the MTSS framework is a required component of special education eligibility at the state level (North Carolina Department of Public Instruction, 2019).

The quantitative findings of this study support the need for further research on the effectiveness of the MTSS framework on decreasing special education referrals and eligibility. While data show there was a small increase in the percentage of special education referrals and students identified as having an SLD at both schools during the years studied, the percentages did not display a consistent upward trend. Intentional examination of data within professional learning communities on a regular basis would provide opportunities for educators to determine if the MTSS framework is making an impact on referral and eligibility data.

The purpose of professional learning communities is continuous improvement and intensive reflection, which only occur with a culture of change (DuFour, DuFour, Eaker, Many, & Mattos, 2016). Providing educators with regular opportunities to examine school referral and eligibility data will encourage positive changes in the school culture. Positive changes would include establishing a schoolwide focus on individual student growth rather than viewing the MTSS framework as the pathway to special education services. Fullan (2001) referred to this culture of change as "reculturing" and asserted, "It does not mean adopting innovations, one after another; it does mean producing the capacity to see, critically assess, and selectively incorporate new ideas and practices - all the time, inside the organization as well as outside it" (p. 44). Naisbitt's (2006) first mindset, "While many things change, most things remain constant" (p. 3), suggested that the only certainty is that change will always occur. DuFour et al. (2010) implied that a successful change strategy involves connecting change to how it will benefit the purpose of the organization.

This study recognizes the potential of the MTSS framework in serving as an initiative for positive educational change (University of South Florida, n.d.). Data from both Schools A and B show that students from the Black subgroup were overrepresented in referrals and special education eligibility, specifically in the category of SLD. Male students were also overrepresented in referrals and special education eligibility at both schools. Research from the U.S. Department of Education (as cited in Peterson, 2019) suggested that minority students were referred more for special education evaluations than non-minority students. Educators are more likely to associate minority students as being low achievers (Peterson, 2019). Providing educators with professional

development on multicultural perspectives can minimize stereotypes about different cultures and bias. Higher achievement can result from educators who hold increased expectations of all their students.

Qualitative findings from the focus groups and interviews indicated that the participants are unsure about the difference between the MTSS framework and RTI model. While school districts often use the terms interchangeably, the MTSS framework is more expansive and encompasses the models such as RTI and PBIS (Wright, 2018). Whittaker and Batsche (2019) maintained that confusion concerning the difference between the MTSS framework and RTI model exists, and a common language and understanding is needed so instructional practice can be improved. For educators to grow, it is important for them to participate in ongoing professional development opportunities that are collaborative and effective. Professional development specifically focusing on how the MTSS framework and RTI work together would enable educators to more effectively implement the MTSS framework. Couros (2015) stated, "the abilities, talents, and intelligence of students and teachers should be developed so as to lead to the creation of new and better ideas" (p. 33). It is critical that teachers are provided ongoing collaborative and effective professional development opportunities for improving the pedagogies required in teaching (Darling-Hammond, Hyler, & Gardner, 2017).

Future Research

While this study provides insight into the impact of the MTSS framework on special education referral rates and eligibility for special education services in the area of SLDs, future studies can expand this knowledge.

One recommendation is to repeat this study with larger populations of

participants. As previously reported, only two schools were of focus in this study. A replication of this study would add to the generalizability of the findings.

Further research should be conducted at the school district level to examine MTSS implementation efforts at each level of the system. A theme that resulted from this study indicated educator frustration with frequent implementation changes that occur within the district. Using data-based problem solving, district needs can be determined and plans constructed.

Another recommendation is to incorporate data on the socioeconomic status of students. As previously mentioned, the socioeconomic status of students was not available to the researcher for this study. Future research using the socioeconomic status of students would add to the body of research on the predictors of special education classification.

Finally, additional research on the impact of the MTSS framework on other areas of disability, specifically emotional disability and intellectual disability, would add to the body of research on the overrepresentation and underrepresentation of minorities in special education programs. Further research is needed due to the emergence of new literature suggesting that minorities are being underrepresented in special education programs.

Summary

The purpose of this study was to examine the effect of the MTSS framework on special education referral rates and the eligibility of special education services in the category of SLDs. This study also investigated teacher perceptions of the impact the MTSS framework has on special education referrals and eligibility for special education

services. Quantitative data from this study showed inconsistencies in special education referral and eligibility rates and did not display a clear upward or downward trend, which contradicted teacher perceptions of fewer students being referred and identified for special education services. The analysis of disaggregated data from this study suggested that students from the Black and male subgroups were overrepresented in the referral and identification of SLDs at both schools. Research by Morris (2012) and Torgesen (2009) maintained that the MTSS framework decreased disproportionate special education placements by being a more precise indicator of the need for specially designed instruction.

Qualitative data showed that participants did not show an understanding of how the MTSS framework and RTI model work together. These educator misunderstandings may account for some of their frustration with the frequent changes in the MTSS framework at the state and district levels; however, participants disclosed that their classroom instruction had improved as a result of the framework. The education system is constantly changing; and in order to adapt to the changes, educators must be readily accepting of change. Fullan (2001) asserted that a culture of change must be created for successful change to occur. Gruenert and Whitaker (2015) inferred, “In a collaborative school culture, teachers share strong educational values, work together to pursue professional development opportunities, and are committed to improving their work” (p. 50). Educators at the schools will rethink their own beliefs and goals within a climate of trust, respect, self-reflection, and willingness to attempt new ideas.

References

Ainsworth, L. (2010). *Rigorous curriculum design*. Englewood, CO: Leadership and Learning Center.

Alfonso, V. C., & Flanagan, D. P. (2018). *Essentials of specific learning disability identification* (2nd ed.). Hoboken, NJ: John Wiley and Sons, Inc.

Allington, R. L. (2009). *What really matters in response to intervention: Research-based designs*. Boston, MA: Pearson Education, Inc.

Ansell, S. (2011, July 7). Achievement gap. *Education Week*. Retrieved from https://www.edweek.org/ew/issues/achievement-gap/index.html

Appelbaum, M. (2009). *The one-stop guide to implementing RTI*. Thousand Oaks, CA: Corwin Press.

Arden, S. V., & Pentimonti, J. M. (n.d.). Data-based decision making in multi-tiered systems of support: Principles, practices, tips, and tools. Retrieved from https://mydigitalpublication.com/publication/?i=445106&article_id=2908444&view=articleBrowser&ver=html5

Armendariz, G. M. (2013). *Response to intervention versus severe discrepancy: Identification of students with a specific learning disability* (Unpublished doctoral dissertation). California State University, Fullerton, CA.

Bailey, B. (2000). The impact of mandated change on teachers. In *The sharp edge of change: Teaching, leading, and the realities of reform* (pp. 112-128). New York: Routledge Falmer.

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

Bennett, A. A. (2014). *Inequity in the referral of exceptional students* (Doctoral dissertation, Virginia Commonwealth University). Retrieved from https://rampages.us/bennettaa/wp-content/uploads/sites/358/2014/07/711-Survey-Summary.pdf

Billups, F. D. (n.d.). *Qualitative data analysis: NERA webinar presentation* [PowerPoint slides]. Retrieved from http://www.nera-education.org

Blaine, C. M. (2016). *Academic and demographic predictors of special education placement in the response to intervention era* (Master's thesis). Retrieved from ProQuest Dissertations and Theses database. (10159416)

Bland, M. (2008, July 4). *Some problems with sample size* [PDF document]. Retrieved from https://www-users.york.ac.uk/~mb55/talks/pathsamp.pdf

Brown v. Board of Education of Topeka. 347 U.S. 483 (Supreme Court of the United States, 1954).

Brown-Chidsey, R., & Steege, M. W. (2010). *Response to intervention: Principles and strategies for effective practice* (2nd ed.). New York, NY: Guilford Press.

Burns, M. K., Appleton, J. J., & Stehouwer, J. D. (2005). Meta-analysis of response-to-intervention research: Examining field-based and research-implemented models. *Journal of Psychoeducational Assessment*, *23*(4), 381-394.

Burns, M., & Riley-Tillman, T. (2009). Response to intervention and eligibility decisions: We need to wait to succeed. *National Association of School Psychologists*, *38*(1), 1-4.

Callender, W. A. (2007). The Idaho results-based model: Implementing response to intervention statewide. In *Handbook of response to intervention science and practice of assessment and intervention* (pp. 331-342). New York, NY: Springer.

Center on Response to Intervention. (n.d.). Essential components of RTI. Retrieved from https://rti4success.org/essential-components-rti

Collins, M. D. (2013). *Evaluating the effectiveness of a response to intervention framework* (3565642) (Master's thesis). Retrieved from ProQuest Dissertations and Theses database. (3565642)

Coonce, L. (2015). *Elementary teachers' perceptions of response to intervention and classroom instruction* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (3738496)

Cornell Law School. (n.d.). *Board of Education of Hendrick Hudson Central School District v. Rowley*, 458 U.S. 176. Retrieved from https://www.law.cornell.edu/supremecourt/text/458/176

Cortiella, C., & Horowitz, S. H. (2014). *The state of learning disabilities: Facts, trends, and emerging issues* (3). Retrieved from National Center for Learning Disabilities website: https://www.ncld.org/wp-content/uploads/2014/11/2014-State-of-LD.pdf

Couros, G. (2015). *The innovator's mindset*. San Diego, CA: Dave Burgess Consulting, Inc.

Cowan, C., & Maxwell, G. M. (2015). Educators' perceptions of response to intervention implementation and impact on student learning. *Journal of Instructional Pedagogies*, *16*, 16-21.

Cowin, J. (2018). Is that appropriate: Clarifying the idea's free appropriate public education standard post-Endrew F. notes. *Northwestern University Law Review*, *113*(3), 587-628.

Creswell, J. W., & Creswell, J. D. (2018). *Research design qualitative, quantitative, and mixed methods approaches* (5th ed.). Thousand Oaks, CA: SAGE Publications, Inc.

Danielson, C. (2006). *Teacher leadership that strengthens professional practice*. Alexandria, VA: ASCD.

Danielson, L., Doolittle, J., & Bradley, R. (2007). Professional development, capacity building, and research needs: Critical issues for response to intervention implementation. *School Psychology Review*, *36*(4), 632-637. Retrieved from https://pdfs.semanticscholar.org/a715/f477239b3fffde4b3eccadfd3dc5ce501aa6.pdf?_ga=2.102878979.2043986395.1581274625-1158610772.1580826435

Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017, June 5). Effective teacher professional development. Retrieved from https://learningpolicyinstitute.org/product/effective-teacher-professional-development-report

Darst, C. (2014). *Response to intervention and the impact on eligibility for special education services in Texas* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (3623941)

Dauter, L., & Olivieri, S. (2016). *Education equality index: Measuring the performance of students from low-income families in schools and cities across the country*. Retrieved from Great Schools! Website:

https://www.greatschools.org/gk/education-equality-index/

Davis, H. S. (2013). Discussion as a bridge: Strategies that engage adolescent and adult learning styles in the postsecondary classroom. *Journal of the Scholarship of Teaching and Learning*, *13*(1), 68-76. Retrieved from josotl.indiana.edu

Dexter, D. D., & Hughes, C. (n.d.). Progress monitoring within a response to intervention model. Retrieved from http://www.rtinetwork.org/learn/research/progress-monitoring-within-a-rti-model

Diaz, A. (2017, June 29). RTI versus MTSS. Retrieved from https://blog.istation.com/rti-versus-mtss

Dougherty, K. A., & McKenna, M. C. (2013). *Reading assessment in an RTI framework.* New York: Guilford Press.

Drago-Severson, E. (2009). *Leading adult learning supporting adult development in our schools*. Thousand Oaks, CA: Corwin.

Drago-Severson, E., & Blum-DeStefano, J. (2018). *Leading change together: Developing educator capacity within schools and systems*. Alexandria, VA: ASCD.

DuFour, R., DuFour, R., Eaker, R., & Many, T. (2010). *Learning by doing: A handbook for professional learning communities at work* (2nd ed.). Bloomington, IN: Solution Tree Press.

DuFour, R., DuFour, R., Eaker, R., Many, T. W., & Mattos, M. (2016). *Learning by doing: A handbook for professional learning communities at work* (3rd ed.). Bloomington, IN: Solution Tree Press.

Edmentum. (2014, May 20). Is MTSS the new RTI? Retrieved from https://blog.edmentum.com/mtss-new-rti

Ehren, B. J., Ehren, T. C., & Proly, J. L. (2009). *Response to intervention: An action guide for school leaders*. Alexandria, VA: Educational Research Service.

Eichorn, B. A. (2009). *Implementation and effectiveness of response to intervention for the identification of learning disabilities* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (3591028)

Eliot & Associates. (2005). Guidelines for conducting a focus group. Retrieved April 14, 2020, from https://datainnovationproject.org/wp-content/uploads/2017/04/4_How_to_Conduct_a_Focus_Group-2-1.pdf

Eng, N. (2013, April 26). The impact of demographics on 21st century education. Retrieved from http://theeducatedsociety.com/the-impact-of-demographics-on-21st-century-education/

Esteves, K. J., & Rao, S. (2008). The evolution of special education. *Web Exclusive Principal*. Retrieved from http://www.specialednews.com/the-history-of-special-education-in-the-united-states.htm

Etz, K. E., & Arroyo, J. A. (2015). Small sample research: Considerations beyond statistical power. *Prevention Science*, *16*, 1033-1036. Retrieved from https://link.springer.com/article/10.1007/s11121-015-0585-4

Fletcher, J. M. (n.d.). Identifying learning disabilities in the context of response to intervention: A hybrid model. *RTI Action Network*. Retrieved from http://rtinetwork.org/learn/ld/identifyingld

Florida Department of Education. (n.d.). Planning/problem-solving process. Retrieved from http://www.florida-rti.org/floridamtss/psp.htm

Friedman, T. L., & Mandelbaum, M. (2011). *That used to be us: How America fell behind the world it invented and how we can come back.* New York: Farrar, Straus and Giroux.

Fuchs, D., & Fuchs, L. (2006). Introduction to response to intervention: What, why, and how valid is it? *Reading Research Quarterly*, *44*(1), 93-99.

Fuchs, L. S., Fuchs, D., & Zumeta, R. O. (2008). A curricular-sampling approach to progress monitoring: Mathematics concepts and applications. *Assessment for Effective Intervention*, *33*(4), 225-233. Retrieved from https://doi.org/10.1177/1534508407313484

Fullan, M. (2001). *Leading in a culture of change*. Hoboken, NJ: Jossey-Bass.

Gersten, R., & Dimino, J. A. (2008). RTI (response to intervention): Rethinking special education for students with reading difficulties (yet again). *Reading Research Quarterly*, *41*(1), 99-108.

Glickman, C. D., Gordon, S. P., & Ross-Gordon, J. M. (2018). *Supervision and instructional leadership: A developmental approach* (10th ed.). New York, NY: Pearson.

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

Good, R. H., & Kaminski, R. A. (2002). *Dynamic indicators of basic early literacy skills* (6th ed.). Eugene, OR: Institute for the Development of Educational Achievement.

Greenfield, R., Rinadli, C., Proctor, P., & Cadarelli, A. (2010). Teachers' perceptions of a response to intervention (RTI) reform effort in an urban elementary school: A consensual qualitative analysis. *Journal of Disability Policy Studies, 21*(1), 47-63. doi:10.1177/1044207310365499

Gruenert, S., & Whitaker T. (2015). *School culture rewired: How to define, assess, and transform it.* Alexandria, VA: ASCD.

Hall, S. L. (2018). *10 Success factors for literacy intervention: Getting results with MTSS in elementary schools*. Alexandria, VA: ASCD.

Hall, G. E., & Hord, S. M. (2015). *Implementing change patterns, principles, and potholes*. Boston, MA: Pearson Education.

Hattie, J. (2009). *Visible learning*. New York, NY: Routledge.

Howard, M. (2009). *RTI from all sides: What every teacher needs to know*. Portsmouth, NH: Heinemann.

Howe, K., Scierka, B., Gibbons, K., & Silberglitt, B. (2003). A school-wide organization system for raising reading achievement using general outcome measures and evidence-based instruction: One education district's experience. *Assessment for Effective Intervention, 28*(3), 59-71.

Individuals with disabilities education act. (2004). Retrieved from https://sites.ed.gov/idea/

Jane Wettach Children's Law Clinic Duke Law School. (2017). *A parents' guide to special education in North Carolina*. Retrieved from Duke Law School website: https://law.duke.edu/childedlaw/docs/Parents'_guide.pdf

Jenkins, J. R., Hudson, R. F., & Johnson, E. S. (2007). Screening for at-risk readers in a response to intervention framework. *School Psychology Review*, *36*(4), 582-600.

Jenkins, J. R., Joseph, R., Schiller, E., Blackorby, J., Thayer, S. K., & Tilly, D. (2013). Responsiveness to intervention in reading: architecture and practices. *Learning Disability Quarterly*, *36*(1), 36-42.

Jensen, D. A. (2009). *An evaluation of the impacts of response to intervention in a rural school district* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (3362212)

Jiang, Y., Granja, M. R., & Koball, H. (2017, January). Basic facts about low-income children. Retrieved from http://www.nccp.org/publications/pdf/text_1170.pdf

Jones, P. (n.d.). *Reduction of referrals to special education through response to interventions and differentiated instruction*. Retrieved from http:// https://www.nmu.edu/education/sites/DrupalEducation/files/UserFiles/Jones_Patricia_MP.pdf

Kauffman, J. M., Wiley, A. L., Travers, J. C., Badar, J., & Anastasiou, D. (2019). Endrew and FAPE: Concepts and implications for all students with disabilities. *Behavior Modification*, *45*(1). Retrieved from https://doi-org.ezproxy.gardner-webb.edu/10.1177/0145445519832990

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

Kozleski, E., & Huber, J. (2010). Systematic change for RTI: Key shifts for practice. *Theory into Practice*, *49*, 258-264. doi:10.1080/00405841.2010.510696

Kramarczuk Voulgarides, C., Fergus, E., & King Thorius, K. A. (2017). Pursuing equity: Disproportionality in special education and the reframing of technical solutions to address systemic inequities. *Review of Research in Education*, *41*(1), 61-87.

Kvande, M. N., Belsky, J., & Wichstrom, L. (2017). Selection for special education services: The role of gender and socio-economic status. *European Journal of Special Needs Education*, *33*(4), 510-524. Retrieved from https://doi.org/10.1080/08856257.2017.1373493

Laerd Statistics. (2018). Differential and inferential statistics. Retrieved from https://statistics.laerd.com/statistical-guides/descriptive-inferential-statistics.php

Lemmond, N. L. (2016). *Response to intervention: The link between specific learning disability and special education services* (Unpublished doctoral dissertation). University of Colorado, Colorado Springs, CA.

Lemons, C. J., Vaughn, S., Wexler, J., Kearns, D. M., & Sinclair, A. C. (2018). Envisioning an improved continuum of special education services for students with learning disabilities: Considering intervention intensity. *Learning Disabilities Research & Practice*, *33*(3), 131-143. Retrieved from https://doi-org.ezproxy.gardner-webb.edu/10.1111/ldrp.12173

Lindstrom, J. H. (2019). Dyslexia in the schools: Assessment and identification. *Teaching Exceptional Children*, *51*(3), 189-199.

Loeser, L. (2018). *SLD fact sheet #5*. Retrieved from North Carolina Department of Public Instruction website: https://ec.ncpublicschools.gov/disability-resources/specific-learning-disabilities/sld-policy-addendum-and-resources/SLDFactSheet5.pdf

Lyon, G. R. (1987). Severe discrepancy: Theoretical, psychometric, developmental, and educational issues. *Learning Disabilities Research & Practice*, *3*(1), 10-11.

Maniglia, L. M. (2017). *How educators perceive the process and implementation of a multi-tiered system of supports: A case study* (Doctoral dissertation, Northeastern University). Retrieved from https://pdfs.semanticscholar.org/c614/1d896c2b233d40b1eb5505cfb39c8e9b133a.pdf

Martin, J. L. (n.d.). Legal implications of response to intervention and special education identification. Retrieved from http://www.rtinetwork.org/learn/ld/legal-implications-of-response-to-intervention-and-special-education-identification

Massachusetts Department of Elementary and Secondary Education. (n.d.). Multi-tiered system of support. Retrieved from http://www.doe.mass.edu/sfss/mtss/blueprint.pdf

McGovern M. (2015). Least restrictive environment: Fulfilling the promises of IDEA. *Widener Law Review*, *21*(2), 117-138.

Merz, W. R. (1967). Education and the process of change. *Association for Supervision and Curriculum Development*, 561-568. Retrieved from http://www.ascd.org/ASCD/pdf/journals/ed_lead/el_196703_merz.pdf

Morgan, G. (2010). *Images of organizations.* Thousand Oaks, CA: Sage Publications.

Morris, M. W. (2012, October). School to prison pipeline: Expanding our discussion to include Black girls. Retrieved April 14, 2020, from http://schottfoundation.org/resources/race-gender-and-school-prison-pipeline-expanding-our-discussion-include-black-girls

Naisbitt, J. (2006). *MIND SET!* New York, NY: Harper Collins.

National Association of Special Education Teachers. (n.d.). *The importance of response to intervention (RTI) in the understanding, assessment, diagnosis, and teaching of students with learning disabilities* (5). Retrieved from https://www.naset.org/fileadmin/user_upload/LD_Report/Issue__5_LD_Report_Importance_of_RTI.pdf

National Center for Education Statistics. (2018, April). Children and youth with disabilities. Retrieved from https://nces.ed.gov/programs/coe/indicator_cgg.asp

National Center for Learning Disabilities. (2019). Parent rights in the era of RTI. Retrieved from https://www.ncld.org/get-involved/learn-the-law/parent-rights-in-the-era-of-rti

National Education Association. (n.d.). Understanding the gaps: Who are we leaving behind – and how far? Retrieved from https://www.nea.org/assets/docs/18021-Closing_Achve_Gap_backgrndr_7-FINAL.pdf

National Education Association. (2007). *Truth in labeling: Disproportionality in special education*. Retrieved from http://www.nea.org/assets/docs/HE/EW-TruthInLabeling.pdf

National Joint Committee on Learning Disabilities. (2020). Responsiveness to intervention and learning disabilities. Retrieved from http://www.ldonline.org/article/11498/

National Research Center on Learning Disabilities. (2006). *A tiered service-delivery model*. Retrieved from https://nysrti.org/files/documents/resources/general/rtimanualsection3.pdf

Neumann, V. E. (2015). *Multi-tiered support system process to inform special education eligibility* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (3689524)

New York University. (2016). Race influences teachers' referrals to special and gifted education, finds study. *Science Daily*. Retrieved from https://www.sciencedaily.com/releases/2016/10/161018094738.htm

Noell, G. H., & Gansle, K. A. (2006). Assuring the form has substance treatment plan implementation as the foundation of assessing response to intervention. *Assessment for Effective Intervention*, *32*(1), 32-39. doi:10.1177/15345084060320010501

North Carolina Department of Public Instruction. (n.d.). State support for installation of MTSS. Retrieved December 29, 2018, from https://www.livebinders.com/play/play?id=2052295#anchor

North Carolina Department of Public Instruction. (2015). *Proposed policy revisions: Specific learning disabilities*. Raleigh, NC.

North Carolina Department of Public Instruction. (2016). *Multi-tiered system of support and students with disabilities: Guidelines for evaluation and decision making*. Retrieved from https://ec.ncpublicschools.gov/policies/nc-policies-governing-services-for-children-with-disabilities/ncdpi-communication/2016-2017/ec-division-memos/20160830-mtss-guidelines.pdf

North Carolina Department of Public Instruction. (2018a). Assessment in a multi-tiered system of support: Overview. Retrieved December 29, 2018, from https://www.livebinders.com/play/play?id=2052295#anchor

North Carolina Department of Public Instruction. (2018b). Policies governing services for children with disabilities addendum. Raleigh, NC.

North Carolina Department of Public Instruction. (2018c). Multi-tiered system of support (MTSS) factsheet. Retrieved July 9, 2019, from https://www.livebinders.com/play/play/2052295?tabid=f22edda5-e675-f0eb-784c-0b9a0de35fa5

North Carolina Department of Public Instruction. (2018d). *Three tiers instructional/ intervention model* [image]. Retrieved from http://mtss.ncdpi.wikispaces.net/Tools%20for%20Teams#

North Carolina Department of Public Instruction. (2019). County schools (230) annual public report for students with disabilities. Retrieved August 20, 2019, from http://www.nccecas.org/apr2016-2017/apr-230-sy2016-17.html#indicator_9

O'Connor, C., & Fernandez, S.d. (2006). Race, class and disproportionality: Reevaluating the relationship between poverty and special education placement. *Educational Researcher*, *35*(6) 6-11.

Parks, N. (2011). *The impact of response to intervention on special education identification* (Doctoral dissertation, Georgia Southern University). Retrieved from https://digitalcommons.georgiasouthern.edu/cgi/viewcontent.cgi?article=1385&context=etd

PBIS World. (2019). What is PBIS? Retrieved from https://www.pbisworld.com/faq/#question1

Peterson, R. (2019). *The relationship between overrepresentation of minority students and explicit and implicit bias* (Master's thesis, St. Cloud State University). Retrieved from https://repository.stcloudstate.edu/cgi/viewcontent.cgi?article=1087&context=spe d_etds

Phipps, L., & Beaujean, A. A. (2016). Review of the pattern of strengths and weaknesses approach in specific learning disability identification. *Research and Practice in the Schools*, *4*(1), 18-28.

Porter, A. (2020). Rethinking the achievement gap. Retrieved from https://www.gse.upenn.edu/news/rethinking-achievement-gap

Positive Behavioral Interventions and Supports Technical Assistance Center. (n.d.). MTSS. Retrieved January 18, 2018, from https://www.pbis.org/school/mtss

Positive Behavioral Interventions and Supports Technical Assistance Center. (2019). What is school-wide PBIS? Retrieved from https://www.pbis.org/school

Powell, J. W. (2011). *The paradox of special education: Both school segregation and inclusive education are on the rise* (Master's thesis, University of Luxembourg). Retrieved from http://file:///Users/tswalker/Downloads/Powell2011_ParadoxSpecialEducationInclusiveEducationRise_WZB.pdf

Professional Learning Association. (2017). Standards for professional learning. Retrieved from https://learningforward.org/standards-for-professional-learning

Raben, K. (2017). *The influence of RTI upon special education eligibility* (10842366) (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (10842366)

Radosta, J. (2013). *Response to intervention: Implementation and monitoring with fidelity* (Master's thesis, Northern Michigan University). Retrieved from http://docplayer.net/8085278-Response-to-intervention-implementation-and-monitoring-with-fidelity-by-jill-radosta-submitted-in-partial-fulfillment-of-the-requirements.html

Raj, C. (2016). The misidentification of children with disabilities: A harm with no foul. *Arizona State Law Journal*, *48*(2), 374-437. Retrieved from https://scholarcommons.sc.edu/cgi/viewcontent.cgi?article=2068&context=law_facpub

Redding, S., Murphy, M., & Sheley, P. (2011). *Handbook on family and community engagement*. Retrieved from Academic Development Institute website: http://www.schoolcommunitynetwork.org/downloads/FACEHandbook.pdf

Reschly, D. J., & Hosp, J. L. (2004). State SLD identification policies and practices. *Learning Disability Quarterly*, *27*(4), 197-214.

Restori, A. F., Katz, G. S., & Lee, H. B. (2009). A critique of the IQ/achievement discrepancy model for identifying specific learning disabilities. *Europe's Journal of Psychology*, *5*(4), 128-145. Retrieved from https://ejop.psychopen.eu/article/view/244/pdf

Rhodes, S. D. (2014). *Elementary teachers' perceptions of response to intervention and*

teacher support team effectiveness within a Mississippi gulf coast school district (Master's thesis). (3584533) Retrieved from ProQuest Dissertations and Theses database.

Schaffer, G. (2017). *Nuts and bolts: Multi-tiered systems of support: A basic guide to implementing preventative practice in our schools and community.* Albany, NY: New York Association of School Psychologists.

Scollins, L. A. (2016). *Response to intervention: A qualitative study of teacher perceptions seven years after the implementation of RTI* (Master's thesis). (10094627) Retrieved from ProQuest Dissertations and Theses database.

Special Education News. (2019, July 3). The history of special education in the United States. Retrieved from http://www.specialednews.com/the-history-of-special-education-in-the-united-states.htm

Sullivan, A., & Bal, A. (2013). Beyond simple disproportionality: Effects of individual and school variables on disability risk. *Exceptional Children*, 79, 475-494.

Swanson, J. D. (2006). Breaking through assumptions about low-income, minority gifted students. *Gifted Child Quarterly*, *50*(1), 11-25. doi:10.1177/0016986206

Tatters, G. (2019, February 21). Low-income students and a special education mismatch. Retrieved from https://www.gse.harvard.edu/news/uk/19/02/low-income-students-and-special-education-mismatch

Torgesen, J. (2009). The response to intervention instructional model: Some outcomes from a large-scale implementation in reading first schools. *Child Development Perspectives*, *3*(1), 38-40.

Underwood, J. (2018). Under the law. *Phi Delta Kappan*, *100*(3), 66-67. doi:10.1177/0031721718808270

United States Department of Education. (2017). *Questions and answers on U. S. Supreme Court case decision Endrew F. v. Douglas County School District re-1*. Retrieved from https://sites.ed.gov/idea/files/qa-endrewcase-12-07-2017.pdf

University of South Florida. (n.d.). MTSS implementation components: Ensuring common language and understanding. Retrieved from http://www.floridarti.usf.edu/resources/format/pdf/mtss_q_and_a.pdf

U.S. Department of Education. (n.d.). Protecting students with disabilities. Retrieved from https://www2.ed.gov/about/offices/list/ocr/504faq.html

U.S. Department of Education. (2004, September 15). NCLB title I: Improving the academic achievement of the disadvantaged. Retrieved from https://www2.ed.gov/policy/elsec/leg/esea02/pg1.html#sec1001

U.S. Department of Education. (2016a, December 12). Dear colleague letter: Preventing racial discrimination in special education. Retrieved from https://www2.ed.gov/about/offices/list/ocr/letters/colleague-201612-racedisc-special-education.pdf

U.S. Department of Education. (2016b, December 12). Fact sheet: Equity in education. Retrieved from https://www.ed.gov/news/press-releases/fact-sheet-equity-idea

U.S. Department of Education. (2017a). 39th annual report to congress on the implementation of the individuals with disabilities education act, 2017. Retrieved from https://www2.ed.gov/about/reports/annual/osep/2017/parts-b-c/39th-arc-for-idea.pdf

U.S. Department of Education. (2017b). *Status and trends in the education of racial and ethnic groups 2017* (2017-051). Retrieved from National Center for Education Statistics website: https://nces.ed.gov/pubs2017/2017051.pdf

U.S. Department of Education Office of Special Education Programs. (2003). Specific learning disabilities: Finding common ground. Retrieved from http://www.ldonline.org/article/5720/

VanDerHeyden, A. M., & Burns, M. K. (2010). *Essentials of response to intervention*, Hoboken, NJ: John Wiley.

VanDerHeyden, A. M., Witt, J. C., & Gilbertson, D. (2007). A multi-year evaluation of the effects of a response to intervention (RtI) model on identification of children for special education. *Journal of School Psychology*, *45*(2), 225-256.

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

Villegas, T. (2017, June 29). A brief history of special education. Retrieved from https://www.thinkinclusive.us/brief-history-special-education/

Voulgarides, C. K., Fergus, E., & King Thorius, K. A. (2017). Pursuing equity: Disproportionality in special education and the reframing of technical solutions to address systemic inequities. *Review of Research in Education*, *41*(1), 61-87. doi:10.3102/0091732X16686947

Wannemuehler, A. (2010). *The efficacy of response to intervention on improving reading achievement and special education referral rates* (Unpublished doctoral dissertation). Walden University, Minneapolis, MN.

Wanzek, J., & Vaughn, S. (2011). Is a three-tier reading intervention model associated with reduced placement in special education? *Remedial and Special Education*, *32*(2), 167-175. doi:10.1177/0741932510361267

White House: Office of the Press Secretary. (2015, March 5). *My brother's keeper task force: One-year progress report to the president*. The White House President Barack Obama. https://obamawhitehouse.archives.gov/the-press-office/2015/03/05/my-brothers-keeper-task-force-one-year-progress-report-president

Whittaker, M., & Batsche, G. (2019). *Data-based problem solving: Effective implementation of MTSS, RTI, and PBIS*. Retrieved from National Center for Learning Disabilities website: https://www.ncld.org/wp-content/uploads/2019/11/Essential-Components-of-Data-Based-Problem-Solving-Approaches.Final_.pdf

Winzer, M. A. (2009). *A history of special education in the 20th century*. Washington, DC: Gallaudet University Press.

Wise, C. (2017). *The effectiveness of response-to-intervention at reducing the over identification of students with specific learning disabilities in the special education population* (Doctoral dissertation). Retrieved from https://www.cn.edu/libraries/tiny_mce/tiny_mce/plugins/filemanager/files/Dissertations/Dissertations2

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

Wright, P. (2010). The history of special education law. Retrieved October 10, 2018, from https://www.wrightslaw.com/law/art/history.spec.ed.law.html

Wright, J. (2018). *RTI/MTSS and the classroom: The elementary teacher as intervention first responder* [PowerPoint slides]. Retrieved June 15, 2018, from https://www.interventioncentral.org/sites/default/files/workshop_files/allfiles/WEWE_BABYLON_RTI_Intro_Elementary_5_Apr_2018_PPT.pdf

Wright's Law. (2019, January 11). Inclusion, least restrictive environment (LRE), mainstreaming. Retrieved from https://www.wrightslaw.com/info/lre.index.htm

Yell, M. L., & Bateman, D. F. (2019). Free appropriate public education and Endrew F. v. Douglas County School System (2017): Implications for personnel preparation. *Teacher Education and Special Education*, *42*(1), 6-17. doi:10.1177/0888406417754239

Appendix A

Focus Group Volunteer Email

Dear (*Grade-Level Team*),

I am a doctoral student in the EDCI program at Gardner-Webb University. I am conducting a research study for the purpose of examining the impact of the Multi-Tiered System of Support (MTSS) framework on special education referral rates and the identification of specific learning disabilities. The study also examines educator perceptions of the impact that the MTSS framework has had on special education referral rates and eligibility. Would someone from your grade-level team be interested in participating in a focus group for this study? Participation in this research study is voluntary and participants may withdraw participation at any time. The focus group session will last approximately one hour after school hours. If you have questions, I can be reached at (*telephone number*) or emailed at (*email address*).

Sincerely,

(NOTE: *The wording of this email was modified for the focus group of Title I Teachers and Interventionists and for the interviews of special education teachers*).

Appendix B

Focus Group Confirmation Email

Dear _____,

Thank you for agreeing to participate in the focus group. As previously stated, the purpose of the study is to examine the impact of the Multi-Tiered Systems of Support (MTSS) framework on special education referral rates and the identification of specific learning disabilities. The study also examines educator perceptions of the impact that the MTSS framework has had on special education referral rates and eligibility. Remember that you may withdraw from the study at any time.

The focus group will meet on (*date*) at (*school site*). Please arrive early as we will begin the focus group promptly at (*start time*). If you have questions, I can be reached at (*telephone number*) or emailed at (*email address*).

I look forward to seeing you.

Sincerely,

Appendix C

Informed Consent for Focus Group/Interview Participation

Informed Consent for Focus Group Participation

Researcher: (researcher's name)
Telephone: (researcher's telephone number)
Email: (researcher's email)

Purpose:
The purpose of this study is to examine the impact of the Multi-Tiered Systems of Support framework on special education referral rates and the eligibility of special education services in the area of specific learning disability. The study also examines educator perceptions of the impact that the MTSS framework has had on special education referral rates and eligibility. As part of this study, participants will take part in a focus group and respond to open-ended questions. This study will last approximately 60 minutes.

Participant Rights:
All participant responses will be maintained in confidence and participant names will not appear in the candidate's dissertation. Participants are also expected to keep information shared by other focus group participants in confidence. Although the focus group will be recorded, pseudonyms will be used in the written document. Participants have a choice of whether or not they want to participate in the focus groups and have the option to stop participating at any time during the focus group session. There are no wrong answers, and participants may skip any questions that they do not want to answer.

I acknowledge this information and my rights as a research participant as outlined above and agree to participate under these conditions. I understand that my participation is completely voluntary. I agree to have my verbal responses recorded and transcribed for research purposes and understand that my responses will not be linked to me personally.

Print Name: _____

Signed: _____

Date: _____

Appendix D

Focus Group/Interview Demographic Survey

Focus Group Participant Demographic Survey		
Highest level of Education ○ Bachelor's Degree ○ Master's Degree ○ Education Specialist ○ Doctorate	Counting this school year, how many years of experience do you have as an educator?	National Board Certification ○ Yes ○ No
School	Position within the school	How long have you been using the MTSS framework?

Appendix E

Focus Group Protocol

Focus Group Protocol

Materials:

- Copies of consent form
- Copies of demographic survey
- Notebook/computer for taking notes
- Recording device
- List of focus group participants
- Focus group script
- Name tags
- Pens for participants
- Clock

Notes for Conducting the Meeting:

- Arrive before focus group participants in order to set up room for the meeting.
- As participants arrive, have them make a nametag with their first names only.
- Establish a positive tone within the group.
- Ensure that all participants have talk time.
- When necessary, probe for complete answers.
- Monitor the time closely and ensure that the meeting stays on track.
- Don't argue with participants.
- Thank participants at the end of each session and explain to them how the information will be used.

Number of Focus Group Sessions: One session will be conducted per site.

Script:

"*Hello. My name is (candidate) and I will be facilitating the focus groups. Also, (assistant moderator) will be assisting me with conducting the focus groups by taking notes and recording our sessions. We will begin by doing introductions, so when it is your turn, please state your first name and the position you hold within the school."*

Introductions

"There are a few tasks that we need to perform prior to beginning our session. We are going to pass out a demographic survey. Information about specific attributes such as age and gender are important for connections with the information obtained from the sessions. When completing the demographic survey, only use your first name at the top of the form."

Demographic Surveys are completed and collected from participants.

"The next form is a consent to participate in this focus group. The consent form explains the purpose of the focus group. Your signature on the form indicates that you are

consenting to take part in this focus group. Prior to you signing the form, I will read the consent to you."

"I am now going to read the consent form to you. If you have any questions, please stop me at anytime. I will also give you a copy of your signed consent form before you leave today"

The facilitator reads the consent form to the participants. After participants sign the forms, the consents are collected. The facilitator reviews each form as it is collected to ensure that they are complete and accurate.

Ground Rules

"Before we begin, I am going to go over the ground rules for our focus group. These ground rules will help our conversation to flow freely.

- *One person speaks at a time. This is crucial because it would be difficult to distinguish between voices on the recorder if more than one person is speaking at a time.*
- *In order to encourage open discussion, all information shared during our session is confidential.*
- *There are no wrong answers to the questions that will be asked of you.*
- *To ensure that all participants can hear, please avoid side conversations.*
- *Every participant is not required to answer every question; however, if I do not hear from you as the discussion progresses, I may ask you your thoughts on what is being discussed.*
- *You may leave at any time.*
- *If you need a break, please let me know. The restrooms are in the hallway."*

"Again, the purpose of the focus group is to find out the perceptions of teachers and administrators about the MTSS framework in determining special education identification. I need your honest input and thoughts about the questions."

"I am going to turn on the recording device. As we go around the circle, please state your first name and make a comment. This will assist us in transcribing the conversation from the recording device and to figure out who is making a comment. It is difficult to differentiate voices; however, by making a comment, we will be able to figure out who is speaking. Do you have any questions before we begin?"

Turn on recording device.

"We will now begin and turn on the recording device."

After participants have gone around the circle and stated their first name and commented, the facilitator will begin the questions one at a time. The facilitator will use his/her judgment as to when to proceed to the next question.

Focus Group Questions:

"Thank you for participating in our focus group today. We will now begin with the questions."

1. Tell me about MTSS. What is MTSS? How does it work at your school?
2. Tell me about the referral process? How can it be improved?
3. In your experience, what impact does the referral process have on student placement for special education services?
4. What is Response to Intervention (RTI)? How does it work at your school? Is RTI successful at your school?
5. How does your knowledge of RTI impacted instruction within your classroom?
6. What questions do you have about MTSS, RTI, or the special education referral process?

"That was our final question. Does anyone have comments or information to add before we adjourn?"

"This ends our focus group. Thank you for participating in our session and talking about these issues. Your comments have provided us with lots of information and different perspectives of looking at the topics. If you have any questions, please contact (candidate) at (email)."

Immediately following the session, the facilitator and note taker will review the notes. The facilitator will also write up a quick summary of her impressions of the session. The notes will be transcribed the same day of the session.