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MULTI-TIERED SYSTEM OF SUPPORTS: A CASE STUDY EXAMINING
EFFECTIVE MTSS IMPLEMENTATION AT THE MIDDLE SCHOOL LEVEL

By
Amy Bridges Marlowe

A Dissertation Submitted to the
Gardner-Webb University School of Education
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Approval Page

This dissertation was submitted by Amy Bridges Marlowe 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.

Sydney Brown, PhD
Committee Chair

Date

Ruth E. Pace, EdD
Committee Member

Date

Jennifer Putnam, EdD
Committee Member

Date

Prince Bull, PhD
Dean of the School of Education

Date

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This verse, my daughter's favorite, has carried me through: "Have I not commanded you? Be strong and courageous. Do not be afraid; do not be discouraged, for the Lord your God will be with you wherever you go." Joshua 1:9.

Abstract

MULTI-TIERED SYSTEM OF SUPPORTS: A CASE STUDY EXAMINING EFFECTIVE MTSS IMPLEMENTATION AT THE MIDDLE SCHOOL LEVEL.

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This dissertation was designed to examine the effectiveness of Multi-Tiered System of Supports (MTSS) implementation at the middle school level. MTSS is a comprehensive framework for targeting educational support for all learners, providing academic, behavioral, and social services. A case study design was used to analyze the stakeholder experiences of the impact of MTSS implementation on a group of sixth- and seventh-grade students. Qualitative data were collected to analyze the personal experiences of the teachers' professional development, collaboration, implementation, and understanding of their roles in regards to the MTSS process. This case study provides insight into a middle school making significant progress toward the implementation of MTSS as a framework for school improvement. Through the analysis of stakeholder focus groups and interviews, key findings emerged in relation to the MTSS implementation process. The findings illustrate the importance of a solid research-based core curriculum. Studies have shown that providing high-quality reading instruction can make a big difference for struggling readers (U.S. Department of Education, 2002). They also illustrate the necessity of creating a school culture where educators believe every student can be successful with the right kind of support. The key to success is to develop a culture where students have constant support from educators, and teachers never stop trying to meet the needs and challenges of students on a daily basis (Berkowitz et al., 2017). By providing detailed narratives of stakeholders as well as references to site and district training notes

and resources, this study provides an illustration of MTSS implementation in a practical context.

Keywords: multi-tiered system of supports/MTSS, implementation, research-based core curriculum, tiers, MTSS essential components

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Chapter 1: Introduction

Why should adolescent literacy matter? According to Ippolito et al. (2008), “If knowledge is power, then literacy is the key to the kingdom” (p. 1). The ability to read and write has provided much influence to those who possess it, and this has continued for hundreds of years. Access to text, especially books and literature, has often been reserved for the advantaged few (Vincent, 2000). In today’s digital society, the written text is increasingly more available. The ability to read and comprehend written texts is extremely important. The coined “three Rs” of schooling include reading, ‘riting, and ‘rithmetic. Two of these point to the long emphasis on literacy in American schools. From achieving academic success to creating a sense of self, literacy plays an integral role in how people interact with the world and with each other (Phelps, 2005). The jobs in today’s economy require employees to access information and integrate new ideas as well as higher order thinking skills. The ability to interpret and connect to the society in which we live lies in the power of literacy (Vincent, 2000).

Research indicates that between 40% and 60% of first-year college students take remedial English classes. Taking these remedial classes makes it more difficult for students to attain their degree in a timely fashion and decreases their likelihood of graduating (Jimenez et al., 2016). The American College Testing (ACT, Inc., 2018) college entrance exam, which measures a student’s ability to complete college level work, found that only 46% of graduates from accredited high schools met the College Readiness Benchmark for Reading. This number fluctuated very little from 2014 to 2018, the parameters of the report. Almost half of the students taking the ACT are unable to handle the rigorous reading requirements required in a first-year college course (ACT,

Inc., 2018).

These factors, combined with the fact that literacy rates are directly correlated with salaries, make this problem even more prevalent. A study conducted by Kutner et al. (2007) revealed that adults with lower literacy rates earned lower salaries than their more literate counterparts. Nearly 18% of adults with below basic literacy levels earn less than \$300 per week. Adults whose literacy levels are proficient are five times more likely than those with below basic levels of literacy to earn \$1,950 or more a week (Kutner et al., 2007). Although this study has not been duplicated since 2007, it can stand to reason that with the rise in technological jobs, this number has not risen much.

Literacy instruction is sometimes referred to as the cornerstone of elementary education. Research points to Grade 4 as a transition period for students between “learning to read and reading to learn” (Chall, 2000, p. 99). During the past few decades, lawmakers have invested a great deal of funds into early reading instruction through programs like Early Reading First and Title I (U.S. Department of Education [USDE], 2017b). Literacy instruction is evident in the elementary setting; however, without continuing the foundations of literacy throughout their school career, students have difficulty transitioning from basic skills to high-level competence. Those students who are falling behind when they enter secondary schools most likely will never catch up (Heller & Greenleaf, 2007). The early recognition of at-risk students or students with learning difficulties and the employment of research-based instruction is a frequent theme of discussion among educational researchers such as Douglas Fuchs, Lynn Fuchs, and Vicki Jacobs. According to the 2019 Nation’s Report Card by the National Assessment of Educational Progress (NAEP), only 34% of eighth-grade students performed at or above

the proficient level on NAEP reading assessments. This percentage dropped 3% compared to 2017. These at-risk students are leaving middle school with the inability to understand and expand on the content vocabulary of their other subjects. There is a great deal of imbalance between the education our students receive and the demand that life in the 21st century commands. The challenge, as educators, is to provide students with the skills they need to be competent in an ever-changing world (Hervey, 2013).

Statement of the Problem

The current crisis in literacy among adolescents shows a discrepancy between the literacy education students are receiving and the demands of life in the 21st century. According to the NAEP Reading Report Card for 2019, eighth graders performed only 4 percentage points higher compared to 1992, the first NAEP assessment year (NAEP, 2019). In 2009, state leaders developed and launched the Common Core State Standards. These standards were implemented to address low literacy rates by raising expectations and providing a more complex variety of texts in which students are to be engaged. Prior to the Common Core State Standards, each state adopted its own learning standards. Each state also had its own definition of proficiency. The lack of standardization was one reason the states decided to implement the Common Core State Standards (Common Core State Standards Initiative, 2019). According to the standards-setting criteria, the team worked to develop standards with the goal of being rigorous, clear, specific, and internationally benchmarked (Common Core State Standards Initiative, 2019). This plan will take time in order to see a significant impact, but the need is urgent for literacy instruction and professional development in middle and high schools now (International Reading Association, 2012).

According to USDE (2008), high dropout rates affect not only the individual but the nation as well. This is due to the higher costs associated with increased incarceration, health care, public relief, and social services. Morrisroe (2014) noted multiple staggering statistics: Nearly half of prisoners have a reading age of a typical 11-year-old. In fact, “Those with low literacy are more likely to be in routine work, receive working age benefits, live in disadvantaged housing conditions in more deprived areas and experience homelessness” (Morrisroe, 2014, p. 6).

There exists a great deal of research addressing the need for reading interventions at the elementary level; however, research at the secondary level in this area is lacking. In past decades, the focus on intervention has remained for the most part on the elementary level where the greatest part of general reading instruction occurs. A significant transition occurs in Grade 4 when students begin to read in order to obtain information. The fact is, students’ reading skills are still continuing to develop and are not always concrete at this point (Salinger, 2011). Over the last few years, as the graduation rate has dropped and the number of students taking remedial English classes has risen, the attention has shifted (ACT, Inc., 2006). There is much more to reading than just calling words. As soon as students begin delving into reading in higher academic content areas, this becomes more apparent (International Reading Association, 2012). Reading assignments become more difficult and lengthier, as well as varied in style, purpose, and audience. Content area textbooks differ from one another in style of writing, purpose, and text structure. Various subject areas employ specialized vocabulary content and background knowledge. Reading at a basic level is not sufficient to master these higher level texts (Heller, & Greenleaf, 2007).

As an eighth-grade teacher who previously taught elementary grades, I understand the problem that not only educators, but students alike face. Students are constantly struggling with reading concepts as they progress through the middle grades where there is no formal reading instruction typically being taught. Some middle school teachers are realizing this and are trying to change it. This case study explored these middle school teachers' implementation of core reading instruction to reduce these deficits as well as their process for addressing student reading deficits through the Multi-Tiered System of Supports (MTSS)/Response to Intervention (RtI) model.

Research Problem

Schools are faced with the challenge of meeting the individual needs of students, including those who are not performing at grade level. One framework being implemented with the goal of meeting each student at their specific point of need is RtI. General education as well as reading specialist teachers work together to intervene early in the case of struggling readers and use progress monitoring in order to address basic skills deficits (Wayne County RESA, 2007). RtI was originally coined as a program to identify and support those students with learning and behavioral needs. Struggling learners are identified through a series of universal screenings and then provided with interventions specifically aligned to their learning needs. Data then can be used to identify and refer students for more comprehensive evaluation and/or to be considered for special education services. MTSS is much more wide-ranging. MTSS includes the three levels of RtI but covers more than just academics. It addresses the entire child from academic to social and emotional behaviors. The MTSS model requires that schools examine the quality of instruction and shifts the focus from identifying students who have

a learning disability to identifying those students who are at risk (Ardoín et al., 2005). The purpose of MTSS is not simply to limit the number of students being identified as having a specific learning disability or to raise scores on universal screenings, but it is also to prevent the long-term ramifications of poor academic achievement, e.g., school dropout and unemployment (Fuchs et al., 2012).

Definition of Terms

Curriculum-Based Measures (CBMs)

Assessments that measure academic skills such as oral reading fluency, word recognition, and comprehension. These measures are used to evaluate a student's RtI (Stevenson, 2015).

Fluency

Reading effortlessly and automatically, recognizing individual words “by sight.” Fluent reading sounds natural, as if the reader is speaking casually (National Reading Panel, 2000).

Individuals with Disabilities Education Act (IDEA)

A law that makes available a free appropriate public education to eligible children with disabilities throughout the nation and ensures special education and related services to those children (Individuals with Disabilities Education Act, n.d.).

MTSS

An instructional framework that includes the universal screening of all students, multiple tiers of instruction and support services, and an integrated data collection and assessment system to inform decisions at each tier of instruction. The framework can be used for literacy, math, or positive behavioral supports (Sedita, 2016).

Progress Monitoring

An assessment technique required by RtI regulations. Teachers administer quick assessments (1-5 minutes) frequently to gauge the improvement of a student. The assessments provide information about the student's rate of learning and the effectiveness of a particular intervention (National Center on Student Progress Monitoring, 2006).

RTI

An assessment and intervention process for systematically monitoring student progress and making decisions about the need for instructional modifications or increasingly intensified services using progress monitoring data (National Research Center on Learning Disabilities, 2006).

Background of the Study

On April 11, 1965, Lyndon B. Johnson signed into effect the Elementary and Secondary Education Act (ESEA), after decades of Congress attempting and failing to create measures for education. This act redefined the role of the federal government in education. It provided funding to strengthen school libraries, education research, aid for disadvantaged students and students with disabilities (Nelson, 2016). This new law raised the federal government's investment in education as they sought to provide a high level of education to areas with greater concentrations of economically disadvantaged students (USDE, 2008).

The traditional IQ achievement discrepancy model, relied on for decades to determine the specific learning disability of a student, has been shown to exhibit many difficulties because students were forced to wait until they showed a discrepancy of two standard deviations before receiving services. This discrepancy model refers to a

difference between a child's intellectual abilities and their progress in the regular school setting. It required certain criteria were met before determining eligibility for services (Restori et al., 2009). This issue was acknowledged in 2004 when the reauthorization of IDEA included one form of MTSS, RtI, in order to provide an alternative approach to the discrepancy-based identification of learning disabilities as well as meet the needs of other students who were at risk (Fuchs et al., 2012). The Every Student Succeeds Act (ESSA) was signed on December 10, 2015 by President Barack Obama. This act reauthorized ESEA. This new law built on areas of progress in more recent years. High dropout rates and lower graduation rates signify a need to continue to expand educational opportunities (USDE, 2017a). Although the school dropout rate, which represents the percentage of 16- to 24-year-olds who are not enrolled in school or have not received an accredited diploma, decreased from 10.9% in the year 2000 to 5.9% in the year 2015, students are increasingly scoring below proficient across NAEP reading assessments (USDE, 2017a).

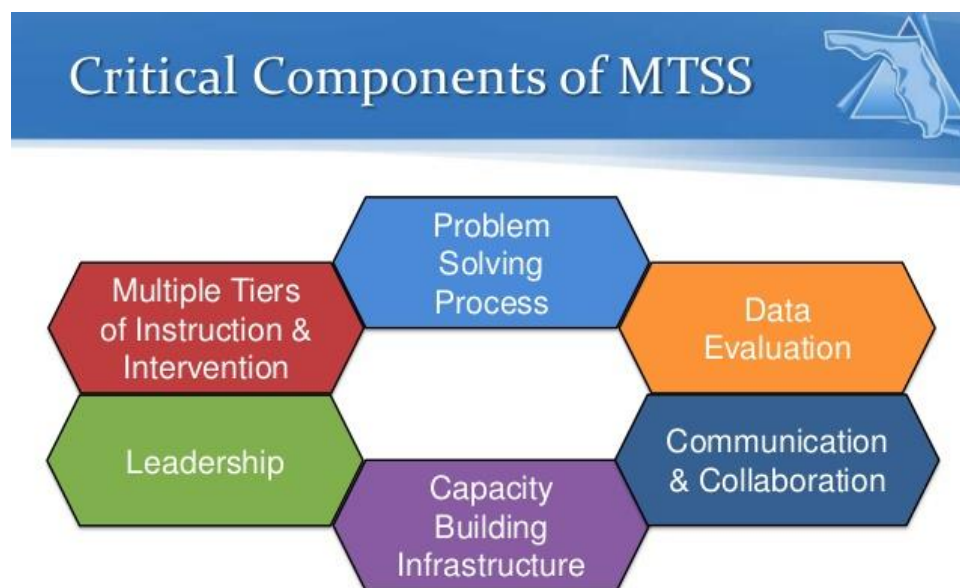
Implementation of the Common Core State Standards requires a number of instructional shifts, placing an emphasis on critical thinking and rigor. The purpose of the standards is to set expectations for what students should be able to do by graduation. They represent the next generation of skills designed to prepare all students for life after high school. Even with the new rigorous standards, there still remains an emphasis on basic reading skills. As the texts become more complex, understanding the basics of reading is required in order to build more critical-thinking skills. MTSS is a framework that creates opportunities for students to meet college and career ready instruction matched to their specific academic needs (Hayes & Lillenstein, 2015).

MTSS

In Figure 1, from Florida's MTSS, the various components of MTSS are shown to encompass not only classroom instruction through evidence-based practices, but also partner with many individuals to ensure continuous support. North Carolina's MTSS framework is based in part on the framework of Dorman et al. (n.d.) of the University of South Florida. North Carolina has adopted these critical components for the implementation of MTSS in this state. The idea of MTSS is to help schools organize resources aligned with the standards and partner with the community to provide a layer of support for each child (Positive Behavioral Interventions & Supports, 2017).

Figure 1

Critical Components of MTSS from Florida's MTSS and University of Florida



MTSS originated with the idea of improving practices for identifying students with special needs. It grew into an initiative to provide quality instruction that meets the

needs of individual students through progress monitoring and frequently makes educational decisions about instructional goals (Positive Behavioral Interventions & Supports, 2017). In a sense, Common Core State Standards are what a student must be able to do, while MTSS can provide the framework for how to reach these standards (Hayes & Lillenstein, 2015). The six critical components of support offered in the MTSS model above are integrated to support the needs of all students. Together, these layers provide for all aspects of a student's educational experience. According to Dorman et al. (n.d.), these components are indicated below.

Multiple Tiers of Instruction and Intervention

Evidence-based programs are put into place to ensure standards-based instruction with assessments to inform instruction. Core instruction is focused and intensified to match student need.

Problem-Solving Process

A 4-step, team-based process of problem-solving that involves defining the goals to be attained, identification of why goal is not being attained, development and implementation of a plan to achieve the goal, and evaluation of the effectiveness of the plan.

Data Evaluation

A comprehensive data system for the evaluation of effectiveness of intervention and fidelity through reliable and valid assessments.

Leadership

A leadership team is responsible for the development of the plan, professional development, implementation, and coaching supports.

Capacity Building Infrastructure

Data-driven professional development with ongoing coaching in order to establish practices, policies, and expected responsibilities.

Communication and Collaboration

Staff are provided with data in implementation fidelity as well as a commitment to community and family engagement.

Federal and state laws have directed schools to analyze and address problems within the general education setting and address them as early as possible. MTSS was designed to help schools focus on high-quality instruction and interventions that meet individual student needs and provide decision-based monitoring to determine the best course of action when concerns arise. The multiple tiers of support within the MTSS model align school resources in order to provide interventions and high-quality instruction. Building the program infrastructure to implement MTSS is crucial in order to maintain collaboration, problem-solving, decision-making, and data evaluation. Creating a school culture that supports implementation and involves key members as well as a leadership team can help to ensure success for all students (Fuchs & Fuchs, 2007).

Purpose of the Study

The purpose of this case study was to describe the case of sixth- and seventh-grade teams of English language arts (ELA) teachers who have shown success in growth based on student achievement since implementing MTSS for literacy instruction. I sought to understand how implementation happened on these teams in order to inform ELA instruction across grade levels at the site and provide information for other sites in the district through a case study of successful implementation. The focus was on the

implementation of MTSS for a group of sixth- and seventh-grade teachers trying to change how secondary students are receiving reading instruction and interventions at the middle school level. This case study considered the different components of MTSS and explored the process and function of implementation. It explored the implementation of each of the MTSS components and their collective effort to boost fluency as well as reading comprehension performance of sixth- and seventh-grade students who scored below level on quarterly benchmark testing as well as End-of-Grade (EOG) testing and were served in Tier 2 intervention groups throughout the year. The focus for this study targeted the sixth- and seventh-grade teams due to the fact that their EOG proficiency scores within 2 years carried the school proficiency for ELA from a level D to a B. Their work towards the improvement of not only their core curriculum through collaboration and data analysis but also their ability to target and intervene for individual students has shown how successful implementation of MTSS can impact the entire student body. I believe closer analysis of their practices will provide a better understanding of the process of MTSS and how it can be successful if implemented properly.

Research Questions

A case study is a research strategy that focuses on understanding the dynamics of a phenomena within a specific setting. These studies typically combine different data collection methods such as interviews and questionnaires as well as observations and score points (Eisenhardt, 1989). The research questions help to build a theory; they also provide a focus for the data. Definition of research questions on a topic allows investigators to specify the type of data to be collected for the study (Rose et al., 2015).

The overall research question guiding this case study was, “How can

implementation of an MTSS program with ELA students in sixth and seventh grades be described?” This comprehensive question is broken down into six components aligned to the six components comprising MTSS, specifically,

1. How can implementation of multiple tiers of instruction and intervention be described?
2. How can implementation of the problem-solving process be described?
3. How can implementation of data evaluation be described?
4. How can leadership’s communication of the vision of MTSS be described?
5. How can capacity-building infrastructure at the school site be described?
6. How can implementation of team communication and collaboration be described?

Summary

The National Center for Education Statistics (NCES, 2021) analyzed and monitored the employment status by educational attainment. Their findings were staggering. In 2016, the employment rate for high school completion was 69%, with 77-88% for college to higher degrees, which was increasingly higher than the employment rate of those who did not graduate, which was 48%. When they looked specifically at 20- to 24-year-olds, the trend line had gone down for multiple years (NCES, 2017). The same study compared reading scores for fourth- and eighth-grade students and found that while fourth graders remained about the same, eighth graders declined. Continuing on to 12th grade, students also showed a drop in test scores. Given such disheartening news, it is becoming increasingly important that schools consider what approaches are necessary to improve student achievement while putting in place best practices to ensure students are

receiving the best possible education and teachers have the skills they need to teach these students effectively. With the prospect of MTSS improving behavioral and academic expectations, efforts are being made to educate policymakers, school leaders, and schools on improving reading and math skills for all their students.

Chapter 2: Literature Review

Overview

In the 21st century, literacy is accepted as the ability to read, write, speak, listen, understand, and construe different types of texts. Adolescents represent a range of socioeconomic and cultural backgrounds who engage in multiple forms of literacy each day. These forms of literacy include the internet, social media, texting, and video games as well as traditional print materials (International Reading Association, 2012). As reported by a review of adolescent literacy in an edition of the Harvard Educational Review, the concern over juvenile literacy emerged in two primary national reports in the 1980s (Ippolito et al., 2008). *A Nation at Risk* (National Commission on Excellence in Education, 1983) conveyed discouraging statistics, including that 13% of 17-year-olds could be considered functionally illiterate, while minority statistics were considerably greater. In response to this staggering lack of growth, Title I of ESEA of 1965, also known as education for the disadvantaged, was signed by Lyndon B. Johnson to ensure financial assistance to local educational agencies as well as schools with high percentages of low-income families. This act was meant to ensure that children are able to meet academic standards regardless of their financial situations (North Carolina Department of Public Instruction [NCDPI], n.d.b). Data from USDE (2008) in its publication *Twenty Years After: A Nation at Risk* showed little to no growth in reading for 13-year-olds between the years 1984 to 2004.

According to USDE (2015), during the 2009-2010 school year, almost 56,000 public schools in the United States used Title I funds to support academics and assist low-achieving children to master challenging curriculum. Of those students, 59% were in

primary schools, 21% were in middle schools, and 17% were at the high school level. In Hock et al.'s (2009) study of struggling adolescent readers, they cited that 2002 data showed extended federal funding for elementary reading programs as opposed to adolescent programs where they received almost a 10th of the Title I funds. The common denominator of all these statistics marks the change in perceptions of reading from the elementary level to the secondary level. There is strong evidence to support the use of small group reading interventions on the literacy outcomes of students with reading difficulties (Cantrell et al., 2014).

This chapter presents a review of the research and literature surrounding adolescent literacy focusing on reading at the middle school level, MTSS, and RtI. The literature review analyzes current practices in the area of adolescent reading drawing on key studies and the works of adolescent reading researchers. It also highlights how the implementation of MTSS plays a role in addressing the needs of struggling learners in the middle school classroom.

Literacy at the Secondary School Level

Educators throughout history have struggled with questions of literacy: Who will become literate? In what ways will they become literate? For what purpose will they need literacy (Reutzel et al., 1996)? The construct of literacy in general is quite intricate. Moje et al. (2005) affirmed that the current literacy development processes in schools are based on the idea that learning how to read ends at the primary or elementary level. As students transition from the elementary to the secondary level, their focus should shift from learning to read to reading to learn (Herber, 1978). Chall (1983) noted six stages in the developmental sequences of language development. Chall (1983) noted that the stages are

hierarchical in structure and point to different ways children relate to printed material.

- Stage 0 is considered the prereading stage from birth through age 6. In this stage, children develop the ability to express needs through oral language and learning of vocabulary. They also begin to recognize letters and begin demonstrating knowledge of basic words through pretend reading.
- Stage 1 is the development of initial reading or decoding. These children in first or second grade begin understanding that letters make sounds, and they begin to decode words.
- Stage 2 illustrates that children in second or third grade begin reading multisyllable words and begin to understand how stories unfold.
- Stage 3 is where third and fourth graders begin using reading as a tool for learning. They are exposed to materials from different points of view as well as new and challenging vocabulary.
- Stage 4 is the middle to high school level, and students are beginning to compare and contrast texts from different points of view.
- Stage 5 is when readers are beginning to understand the content on a higher level and are able to draw conclusions and formulate opinions.

Public education and its outdated systems have continued the idea that middle and high school grades should not need an emphasis on literacy instruction; however, the demands of the 21st century as well as the expanse of content disciplines and rigorous text show a need for literacy support at the secondary level (Joseph, 2008).

The term adolescent literacy is not limited to teenagers. It is used to describe literacy for students in Grades 4-12. The idea is that through Grade 3, students are

learning to read; but in Grade 4, they begin reading to learn (Chall, 1983). In a perfect world, children would learn to read in second and third grade and then spend the rest of their lives reading to learn. They would not still be learning basic reading skills in middle and high school. This point becomes even more prevalent when we look at NCES (2021) where they found that nearly one in four students in their senior year are reading at levels considered below basic.

Adolescent literacy encompasses the skills that must be taught so students are able to meet more challenging reading demands as they move through the upper grades (Goldman, 2012). Reading has many purposes. We read to learn from informational texts such as newspapers, textbooks, and web articles; and we read for information when we fill out an application or set up a new piece of technology. These types of learning require the ability to read and remember what has been read (Biancarosa & Snow, 2006). The need for a variety of strategies can be explained by Elkins and Luke (1999), when they wrote,

Today adolescence and adulthood involve the building of communities and identities in relation to changing textual and media landscapes. They involve finding a way forward in what is an increasingly volatile and uncertain job market, and negotiating a consumer society fraught with risk, where written and media texts are used to position, construct, sell, and define individuals at every turn and in virtually every domain of everyday life, in the shopping mall and the school, online, and face to face. (pp. 6-7)

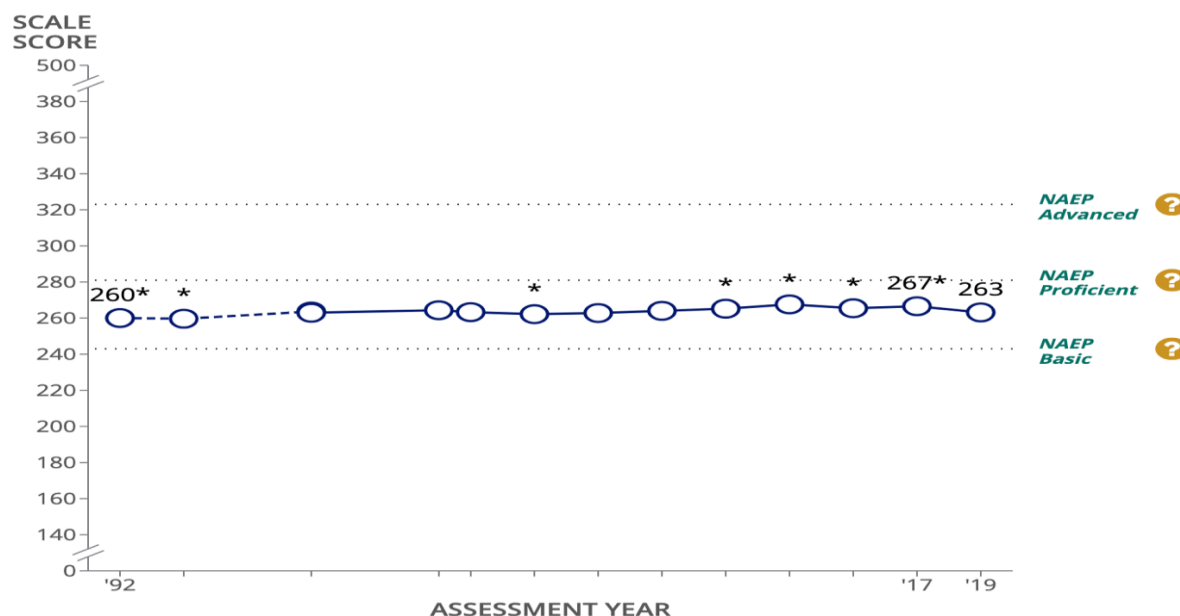
Figure 2 shows that achievement scores at the secondary level, where literacy instruction is sparse, have remained flat since the early 1970s, according to the Nation's Report Card

in 2019.

Figure 2

Eighth-Grade NAEP Reading Average Scores

FIGURE | Trend in eighth-grade NAEP reading average scores



The introduction of the Common Core State Standards and the work in the field of literacy point out that generic comprehension strategies are not satisfactory enough to handle the complexity of the text students are exposed to across content areas. Students must do more than simply apply the skills to new text; they must also call upon knowledge and reasoning processes that are specific to particular disciplines. Many adolescent students begin struggling with comprehension because they lack the appropriate vocabulary to understand complex texts (Hervey, 2013). Without intervention, limited literacy skills can present long-term consequences such as increased dropout rates (NCES, 2021). National studies show that 75% of students with reading problems in third grade still experience educational difficulties in ninth grade (Francis et al., 1996).

For secondary students, the social and economic consequences that result in being unable to read can be quite concerning. For these students, the possibility of underemployment or unemployment is quite a barrier when they fail to attain a high school diploma (Peterson et al., 2000). This can also lead to emotional consequences like low self-esteem and anxiety. Adolescents today live in a global society, which has a profound influence on their literacy identities. Part of the responsibility of secondary school literacy instruction is to focus on digital literacy and digital literacy strategies. In a world where so much information is shared digitally, it is critical that students be able to understand how to maneuver within the realms of the online world.

The literacy demands of living in the 21st century raise the bar on what students need to achieve in order to prosper in this global economy (Goldman, 2012). Brennan (2011) suggested that the critical literacies involve a reading that is focused on a student's ability to critique and question the culturally and socially diverse world in which we live. Effective readers must be able to apply their knowledge to different types of content and process it in different ways. Literary contents are structured differently from fiction to science and history as well as news accounts and blogs. Readers need to be able to apply their knowledge of relevance and reliability as well as bias and incompleteness. They must also be able to relate and cross reference information across sources (Goldman, 2012). Despite the cultural, linguistic, and economic differences, almost all adolescents have interest and experiences with print and nonprint text. Most of their activities contain some form of literacy from video games, reading blogs on the internet, instant messaging, job interviews, etc. Those literacies in the lives of adolescents are often disconnected from the academic literacies required in school (Moore et al., 1999), thus the literacies

taught in school need to be tied to the 21st century skills necessary for today's society.

As this next generation begins to enter the workforce, it will be imperative that they not only have knowledge, but they must also be able to understand what to do with the information they learn; namely create, communicate, collaborate, and make sound arguments. Adolescents who enter the workforce in the 21st century will read and write more than adults ever have in history. They will require advanced literacy levels to perform certain jobs and carry out life as a citizen. They will be forced to cope with a deluge of information every way they turn, thus continued literacy instruction past their early grades is necessary (Moore et al., 1999).

History of MTSS and the Discrepancy Model

The MTSS model was developed to replace the IQ achievement discrepancy model used to identify students with a learning disability. The discrepancy model was the standard for identifying students with learning disabilities based on 1977 federal regulations. This process required that a significant difference be documented between a student's ability (IQ) and achievement in order for a learning disability to be identified (Mesmer & Mesmer, 2008). The IQ achievement discrepancy model looked for a significant difference between a student's score on an achievement test and their score on a general intelligence test. If the student scored 2 standard deviations higher on the IQ test than the achievement, the student could then be considered to have a learning disability. Due to the fact that this method could take several years in order to identify a disability, the concern was that students were not receiving services early enough. Some even consider this a wait to fail method (Ardoin et al., 2005).

Although the IQ achievement discrepancy model was prevalent in identifying

students with specific learning disabilities, there were several critiques of its use. There were mixed thresholds on what constituted a severe discrepancy as well as inconsistencies among the tests used between states (O'Donnell & Miller, 2011). From the beginning, the discrepancy model has presented different problems. Researchers have found that young children who experience academic problems in the earlier elementary grades do not actually demonstrate the IQ achievement discrepancy required for eligibility to be classified as specific learning disabilities (Restori et al., 2009). As a result, it is common for students to struggle and continue to fail academically for several years before their achievement is too low compared to their IQ. When children begin to struggle in reading as early as first grade and intervention does not occur early, there is a greater probability that they will continue to be poor readers throughout their secondary level of education and beyond (Fletcher & Lyon, 1998). If educators are able to meet the academic needs and challenges early on, the likelihood of more positive academic achievement is greatly elevated; and the likelihood of negative outcomes such as delinquency, unemployment, and dropout can be reduced (Alexander et al., 1997).

Within the IQ achievement discrepancy method, identification of a learning disability typically occurs in upper elementary, so a student must wait to fail before interventions can occur. Consequently, the 2004 Reauthorization of the Individuals with Disabilities Education Improvement Act permitted states to abandon the practice of IQ achievement discrepancies in favor of RtI for identifying specific learning disabilities (Fuchs & Fuchs, 2007), thus providing students with the interventions they need earlier.

MTSS/RtI Essential Components

Teachers have faced pressure in recent years to increase student achievement. The

implementation of the Common Core State Standards brings about a number of shifts in instruction. They place an emphasis on critical-thinking skills as well as depth and rigor (Hayes & Lillenstein, 2015). Historically, educational policy has been left to local and state agencies with little federal involvement; however, we are beginning to see a change in this. Common Core State Standards were envisioned as rigorous expectations for the skills and knowledge students need in order to be prepared for postsecondary success and employment. They promote college and career readiness for students to ensure that they are able to compete with their peers in the global marketplace (Hayes & Lillenstein, 2015), thus students struggling to meet college and career readiness standards can be impacted with the implementation of high-quality instruction and research-based interventions.

Educators are reaching to MTSS to understand how to best meet the needs of those struggling learners and are finding results. While RtI in general addresses the academic and behavioral needs of all students, MTSS reflects the much larger, schoolwide implementation that involves all students and acknowledges that academic and/or behavioral curricular instruction are equally beneficial. MTSS considers if core instruction is meeting the needs of all students (Metcalf, n.d.). It comprises three objectives: Effective teacher instruction is the most powerful predictor of student success; all students can learn; and schools must provide all students an education from which they can benefit (Hayes & Lillenstein, 2015). The National Center on Response to Intervention (NCRI, 2010) offered a research-based definition of RtI as follows:

RtI integrates assessment and intervention within a multi-level prevention system to maximize student achievement and to reduce behavioral problems. With RtI,

schools use data to identify students at risk for poor learning outcomes, monitor student progress, provide evidence-based interventions and adjust the intensity and nature of those interventions depending on a student's responsiveness, and identify students with learning disabilities or other disabilities. (p. 2)

RtI is a school-based system used to identify student needs through increased levels of research-based assessments and interventions. It can be implemented to assess deficits in multiple areas including behavior, academics, attendance, and other issues related to students. It serves to gather information needed in order to apply and monitor appropriate strategies and interventions for each student. To sum up, RtI is an approach that serves two purposes. First, it provides early intervention to struggling students in order to improve their skills. Second, it can be used to identify students who have learning disabilities. RtI has six defining features which are noted in Sugai and Horner's (2009) article in *Exceptionality*:

1. Interventions that are supported by scientifically based research.
2. Interventions that are organized along a tiered continuum that increases in intensity (e.g., frequency, duration, individualization, specialized supports).
3. Standardized problem-solving protocol for assessment and instructional decision-making.
4. Explicit data-based decision rules for assessing student progress and making instructional and intervention adjustments.
5. Emphasis on assessing and ensuring implementation integrity.
6. Regular and systematic screening for early identification of students whose performance is not responsive to instruction.

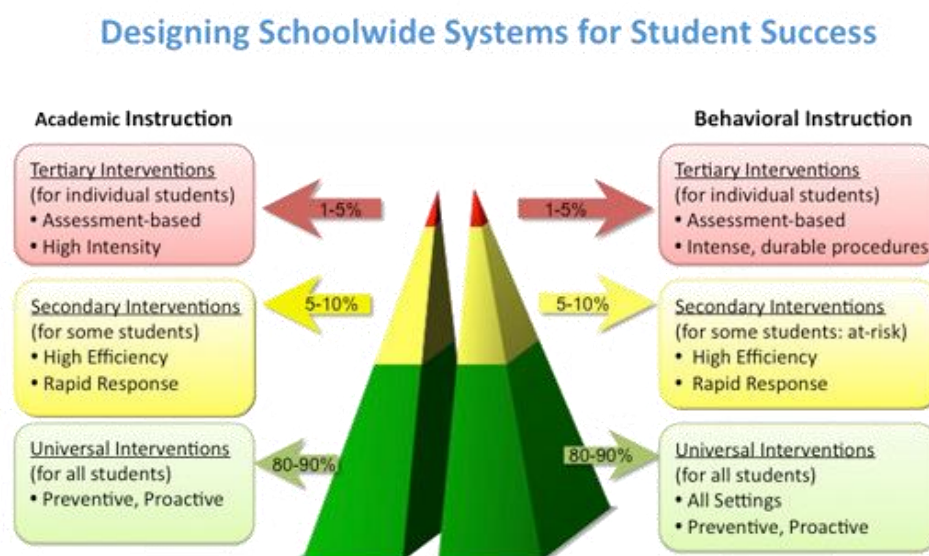
The ability to identify struggling learners is the first step in helping them gain the academic skills that will lead them to a high school diploma. Currently, the nationwide focus is to develop early intervention models that will help target the most at-risk students. The phrases RtI and MTSS are often used interchangeably. RtI is a part of MTSS; but MTSS is more extensive, in that it meets the needs of all learners (Hurst, 2014). RtI refers to the method of providing intervention across three tiers. The hierarchy of interventions was created as a process meant to catch students early in school and provide instructional interventions to prevent future failure and minimize the number of students being referred to special education (Brown-Chidsey & Steege, 2005).

MTSS, however, focuses on collaboration between general education and special education teachers as well as other support specialists inside the school in order to ensure that the goal is overall student improvement (Hurst, 2014). As noted in Chapter 1, North Carolina MTSS has identified six critical components necessary to fully implement an integrated academic and behavioral approach. Implementation must begin with the development of a leadership team typically made up of administrators, regular education teachers, reading specialists, and any other curriculum specialist available. This team then conducts a round of universal screenings that can be used as a data evaluation piece to understand the particular needs of the school and/or certain areas. With these data, the team uses a problem-solving process to create a plan of action for addressing specific needs through multiple tiers of instruction and interventions. Through professional development, coaching, and collaboration, the problem-solving team will create a plan for the current students as well as the longevity of the program and how it addresses student needs. It offers a multi-tier approach to interventions as well and places the

emphasis on schoolwide differentiated core instruction. The tiers involved in RtI and MTSS are consistent with each other; while they may sometimes look a bit different, they both follow the three-tier approach. The following shows the MTSS model of interventions indicating the balance and similarities between academic instruction and behavioral instruction (Positive Behavioral Interventions & Supports, 2017).

Figure 3

MTSS Academic and Behavior Tiers



The three-tier approach shown in Figure 3 is also used to indicate the percentages of students who fall into each of the categories. The universal screenings that are designated for all students are considered a preventative and proactive method for addressing those skill deficits prior to them becoming problematic. At the secondary level, targeting those 5-10% of students who do not respond to regular classroom instruction, the teacher provides high-efficiency interventions with closer progress

monitoring. At the tertiary level, targeting those 1-5% who still do not respond to targeted interventions, intense remediation is used.

The model depicted in Figure 3 indicates that Tier 1 is intended solely as a general education intervention and requires that all students be screened to identify weaknesses in math and/or reading. These screenings, called benchmark tests, are used to determine if interventions are needed and if a student is identified as at risk. These decisions must be data driven and match students with the supports they individually need. The intervention instruction must be highly organized and focus on specific academic content (Metcalf, n.d.). Once identified as at risk, students begin Tier 2 interventions, research-based remedial instruction given by a teacher, and are closely monitored for progress. After a period of 2-3 weeks, the student is reviewed and the determination is made as to whether or not the intervention was successful. This is usually done through a research-based progress monitoring tool. If the student does not meet an acceptable level of progress, the intervention is changed to a more intense level focusing on the student's specific needs. Tier 2 instruction is much more individualized to the individual needs of each student focusing on specific skill deficits, and student progress is monitored more closely than Tier 1 (NCRI, 2010).

If students are not responding with success to the previous interventions, a third tier may be necessary. A school-based support team identifies the student and refers them for a more intense reading intervention multiple times per week. These students are provided with supplemental interventions based on their individual skill deficits, while being progress monitored to evaluate performance. At Tier 3, if a student is unresponsive to the interventions, the student is referred to the special education program for further

testing. If a student shows success with the Tier 3 intervention, the progress monitoring will continue and the skilled intervention will adapt to the specific needs of the student (Shapiro, n.d.).

Tier 1: Research-Based Core Instruction

Research-based core instruction is often referred to as Tier 1 or primary core curriculum. It deals with the educational standards and instruction provided for all students. The core program should be comprised of research-based instructional practices that are culturally responsive. Universal literacy practices are established, and differentiated learning activities are performed at this level of instruction (Mesmer & Mesmer, 2008). Student service teams look at core curriculum through four areas: environment, curriculum, instruction, and data evaluation. Environment includes the functionality of the school setting as well as behavioral expectations and agreed upon expectations. Curriculum is defined as the evidence-based materials and instructional programs that are delivered to all students. Instructional practices are aligned with student needs and available resources. Last, a data-evaluation plan is in place to measure not only student success but to measure level of implementation (North Carolina MTSS Implementation Guide LiveBinder, 2021).

ESEA of 1965 was re coined as the No Child Left Behind Act in 2002. It mandated the first adoption of scientifically research-based reading programs. This began the movement toward improving educational experiences and outcomes of all students regardless of their income and background. In 2015, this was replaced with ESSA, which gave state and local governments more control over their school systems (USDE, 2017a). This research-based instruction specifically refers to instruction acquired by the results of

scientific studies, also referred to as evidence-based instruction. Providing high-quality reading instruction can make a big difference for struggling readers. This instruction is designed to meet the specific needs of each student rather than simply teaching the same way for all (Denton, n.d.).

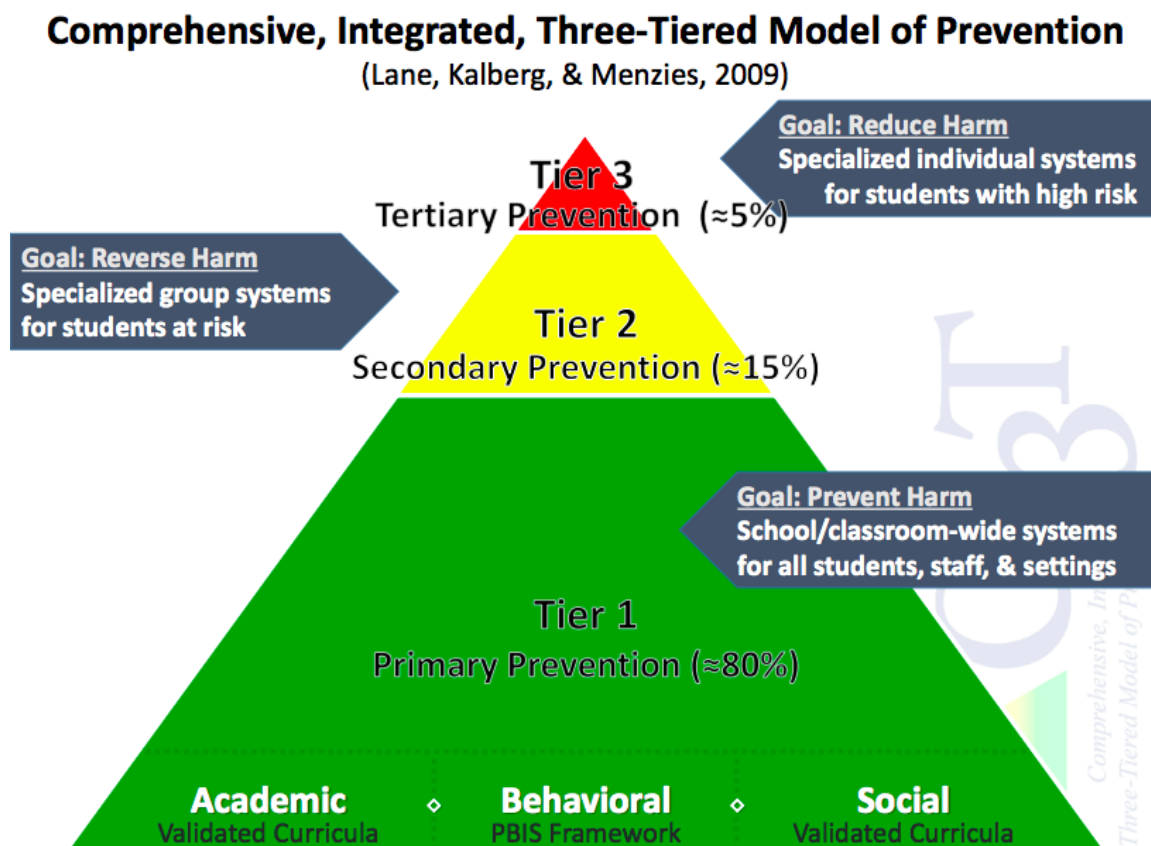
Universal Screening

When a school adopts the MTSS/RtI framework, they must begin by administering universal screenings in order to identify those students possibly at risk for future academic failure or delay. This process involves screening all students in the school setting. The purpose of administering these assessments at the beginning, middle, and end of the school year is to gain a better understanding of the academic and behavioral needs of each student. The decision-making team uses these data in order to plan for the universal, targeted, and intensive intervention supports for each student. Universal screenings at Tier 1 consist of assessments of academic and/or behavioral skills where local norms are generated to assess student progress and goals (Hunley & McNamara, 2010). Once a screening assessment has been administered, the data are then reviewed to target students who may be at risk and need additional testing or observations. Typically, student performance is compared with a minimal benchmark score, and students not meeting benchmark move into Tier 2 interventions (Mesmer & Mesmer, 2008).

Tier 2 Instruction

Not all students respond to improved core literacy instruction. Those students who do not succeed require additional academic supports in order to progress toward appropriate grade-level performances (Faggella-Luby et al., 2009). According to the

Comprehensive, Integrated, Three-Tiered Model of Prevention by Lane et al. (2019) in Figure 4, approximately 15% of the student population requires explicit Tier 2 instruction in order to meet their educational needs. When a Tier 1 assessment identifies a student who is not progressing at the norm, a second level of intervention is put into place. This form is often called a “secondary prevention” (Hunley & McNamara, 2010). This typically involves small group instruction with evidence-based interventions that target specific gaps in learning skills. These interventions are offered in addition to regular core instruction. Secondary level instruction has three characteristics worth noting: It relies on small group instruction instead of whole class; it involves a research-based intervention done with fidelity; and it involves a validated intervention (National Research Center on Learning Disabilities, 2006). This secondary prevention typically occurs two to three times per week with 20-30 minute intervention sessions, progress monitoring the student every 2-3 weeks to monitor growth and validity (Mesmer & Mesmer, 2008).

Figure 4*Three-Tiered Model of Prevention****Tier 3 Instruction***

Tertiary prevention or Tier 3 of the framework is the most intensive and individualized. It is reserved for those students who do not make adequate progress at the Tier 2 level. It is assumed at this level that the first two tiers have not addressed or targeted the root of the academic issue, so further assessment is needed. This intensive intervention addresses severe learning and behavioral needs. The intensity is increased from Tier 2, and the instruction is more individualized to address the academic and behavioral needs (NCRI, 2010). Intensive interventions differ from small group interventions in the organizational as well as assessment factors. The tertiary prevention

requires a student receive supplemental instruction 5 days per week for up to 45 minutes. These interventions can last for a duration of 20 weeks or more and are conducted by an intervention specialist (Harlacher, n.d.). Frequency, duration, size of the group, and facilitator are the primary differences between Tier 2 and Tier 3 instruction. Students who are unable to achieve the appropriate level of progress in the third tier are then referred for evaluation and considered for eligibility for special education services (Shapiro, n.d.).

Literacy Development in Middle School

Chall (1983) noted that there are major distinctions between learning to read and reading to learn. Learning to read asks students to master recognition of letters and words, pronounce them, and read them fluently. Reading to learn is quite a bit more substantial. Chall (1983) emphasized that students must move away from procedural reading and towards acquisition reading to gain information. Adolescent literacy in the 21st century does not look the same as it did 50 years ago, or even 30 years ago. Students today are being inundated with not only print but also digital text.

It has been understood for some time that the needs of the primary reader are quite different than the needs of the adolescent reader. Chall (1983) noted five reading stages that distinguish the levels of skill acquisition for children; the first two of which happen in the primary grades. Stages 1 and 2 focus on learning the sounds of the alphabet, phonemic awareness, decoding, and fluency. Beginning around Grade 4 and on into the middle grades, children begin to develop into Stage 3, where they use reading as a source to learn new knowledge. They develop context for reading and learn how to apply what they read to make predictions, understand text structure, and synthesize different texts. Stages 4 and 5 require the reader to use a broader and deeper

understanding of the text and involve working with more than one point of view (Chall, 1983). Without the basic understanding of Stages 1-3, Stages 4 and 5 can be quite difficult in dealing with the much more varied content. As text becomes more complex in middle school, it is necessary for students to have the ability to adapt by using advanced strategies to better understand what they read. While most agree on the definitions of adolescent versus primary literacy, what is less understood is the knowledge of when adolescent reading actually begins. It is generally associated with middle and high school students; but adolescent literacy begins much earlier, usually around Grades 4 or 5 when other contents begin to play a critical role in academics (Jacobs, 2008).

Research on reading comprehension often focuses on student deficits, but it is important to understand how students successfully read to learn in order to grasp where these skills fail. Research identifies five characteristics of a successful reader. First, successful readers monitor their comprehension including understanding how to use strategies when they are unsure of the text. Second, they are able to connect concepts within and among different texts. Third, successful readers question themselves during reading and seek explanations. Fourth, they organize the information they read. Finally, they use the whole structure of the text to obtain knowledge (Goldman, 2012). While understanding how students read successfully is important, it is even more important to attempt to figure out how to address their reading difficulties. We know that these difficulties often present themselves early on and tend to evolve into lifelong literacy deficits. The social and economic consequences of illiteracy can be significant, thus seeking a solution for these needs is crucial.

MTSS Critical Components at the Middle School Level

Researchers have studied and evaluated MTSS at the elementary school level for quite some time. Middle schools look quite different though in terms of expectations, teacher grouping, and structure. Secondary schools around the country are just beginning to implement MTSS, so the research is considerably less. The state of Florida began their implementation of MTSS in 2008; North Carolina followed suit in 2012, and many of the North Carolina components and frameworks model Florida's. The North Carolina MTSS Implementation Guide note Florida's six critical components for implementation. These components are described next (NCDPI, 2019a).

Three Tiered Instructional/Intervention Model

In the MTSS system, Tier 1 (core instruction) includes instruction provided to all students in the regular education classroom; Tier 2 (supplemental instruction) includes instruction provided additionally to students not meeting benchmarks; Tier 3 (intensive intervention) provides individual or small group intense instruction for students showing significant barriers to learning of the benchmark skills required for grade-level success. The tiers of MTSS consider not only the academic but also the social-emotional and behavioral instruction (NCDPI, 2019a).

Data-Based Problem-Solving

This component includes the use of student outcome data across grade levels, content areas, and tiers to address deficits in learning and instruction. The four-step problem-solving approach that is used includes (a) defining goals to be attained, (b) identifying potential reasons why the goals are not being met, (c) developing a plan for implementing strategies to attain goals, and (d) evaluating the plan's effectiveness. These

data-based problem-solving decisions are made as a team to ensure student needs are addressed (NCDPI, 2019a).

Data Evaluation

The need for the evaluation of data is critical in the problem-solving model. The problem-solving team needs to have access to and understand data that address the individual student goals. These assessments are used to make educational decisions about student growth with fidelity as well as examine the current practices of instruction at the school site in order to improve the implementation of MTSS (NCDPI, 2019a).

Leadership

This component encompasses the principal, any assistant principals, and the school leadership team. This group is responsible for developing and presenting professional development for MTSS implementation as well as creating a strategic plan and problem-solving model for the school site. Administration must communicate a vision for the staff and offer support and resources for instruction and intervention (NCDPI, 2019a).

Building the Capacity/Infrastructure for Implementation

This component is necessary to sustain MTSS at the school site. It includes ongoing professional development and coaching on data-based problem-solving as well as interventions and instruction. Staff are provided with time to engage in the data analysis as well as plan for instruction (NCDPI, 2019a).

Communication and Collaboration

These are essential components for implementation because in order to have success, there must be consensus and feedback. Including stakeholders in the planning

process, as well as communicating with families, increases sustainability of the practices. It is important that teachers, support personnel, and administrators work together to build the infrastructure of MTSS at the school level (NCDPI, 2019a).

For MTSS to work effectively, each of the components must be interconnected. In North Carolina, the framework to identify at-risk students for behavioral and/or educational deficits note four necessary components: screening, progress monitoring, research-based instruction, and data-driven decision-making for movement within the tier system (NCRI, 2010).

Screening is the first step in identifying students who are at risk for academic failure. These screenings are done at the beginning, middle, and end of the school year. North Carolina uses PowerSchool, available through NC EdCloud, to retain all information regarding students including attendance, grades, and standardized testing scores. Through PowerSchool, schools are able to access information regarding early warning reports with risk indicators. This allows teachers and administrators to be proactive in screening students for failure (NCDPI, n.d.a). Screening also includes the administration of academic measures designed to provide diagnostic information about a student. If a student scores below a predetermined cut score, they could potentially be identified as at risk. Further diagnostic testing could then be used to determine what instruction would be needed.

The progress monitoring component is the second piece of the MTSS process. During this step, students are presented with academic performance assessments at least monthly; but this can be adjusted to monitor specific groups more closely. The purpose of the progress monitoring is to determine exactly what academic adjustments need to be

made to supplement the core instruction for each student at the Tier 2 level. These progress monitoring data provide multiple layers of information about the effectiveness of interventions to make better instructional decisions (NCDPI, n.d.b). Necessary tools in the implementation of MTSS are CBMs. While CBMs are often given as a universal screener, they can also be used for monitoring progress to interventions (Fuchs et al., 2012). The particular CBMs used at the school in this study are the multiple choice reading comprehension tests (MCRC). Students are asked to read a grade-appropriate passage and answer 20 multiple choice questions through a broad range of standards. These tests typically take 30-45 minutes to complete. The format of the MCRC correlates with the EOG assessments, making it the choice of most secondary schools for progress monitoring (Stevenson, 2015). Progress monitoring data can also be used to determine the effectiveness of the intervention being used.

Research-based small group instruction plays a key role in the MTSS process. During this step in the process, Tier 2 groups undergo small group interventions based on reading comprehension and vocabulary development. Each of the lessons are focused on targeting specific reading comprehension skills as well as vocabulary acquisition (Graves et al., 2011). Much research has been compiled to demonstrate how small group reading interventions have a positive effect on addressing struggles for students in literacy (Faggella-Luby et al., 2009). According to Hall and Burns (2018) in their meta-analysis of targeted small group reading interventions, small group interventions should focus on phonemic awareness, phonics, fluency, vocabulary, and comprehension as well as be implemented three to five times per week for approximately 20- 40 minutes with a progression of reading skills. There is evidence to support the success small group

instruction has on literacy success of struggling readers. Gersten et al.'s (2005) recommendation supported that small group interventions rank as the highest in supporting students experiencing reading difficulties.

Data-based decision-making is crucial to the success of MTSS. Screening and progress monitoring data can be used to make decisions about classroom and small group instruction. This step provides routines for school personnel to make data-based instructional decisions. Teams develop specific guidelines for the collection and analysis of data (NCRI, 2013b). The decision-making teams usually consist of administration, regular education teachers, RtI coordinators, and any other specialists needed for specific school sites. Teams typically meet weekly or bi-weekly to analyze data and meet instructional needs. They determine the types and frequency of data to monitor appropriate learning gains. Each team has a specific set of procedures to follow when analyzing data. Most follow the process of defining the problem, developing a plan, implementing the plan, and evaluating it. Throughout the whole process of decision-making, teams must review and tweak their own processes to ensure that all decisions are accurate, consistent, and reviewed with fidelity (NCRI, 2013b).

Reading Interventions at the Middle School Level

When the academic performance of a student is lower than their grade-level peers, it is important to provide intensive interventions. Students come to school with different backgrounds and experiences. Many students begin school behind their peers and continue to struggle for years to come (Vaughn & Linan-Thompson, 2003). Hougen (2015) studied evidence-based reading instruction for middle school students. Hougen noted five components essential to reading instruction: word recognition, word study,

fluency, vocabulary, and text comprehension.

Word Recognition and Word Study

Word recognition and word study are the beginning stages of intervention that focus on the ability to decode words. Struggling middle school readers must be instructed with intensive instructional strategies in decoding unknown multisyllable words. The instruction should include explaining the decoding strategy, modeling, guided practice, and independent application (Biancarosa & Snow, 2006). By middle school, students should know most of the regular and irregular English words, so beginning to learn the more complex Latin and Greek forms can help them prepare for more complex reading (Hougen, 2015).

Fluency

Fluency is frequently a focus in reading instruction for elementary grades, but research suggests it is an important variable in the reading success of secondary students as well (Rasinski et al., 2005). When readers spend a significant amount of their time thinking about how to decode the words, the cognitive resources available for processing and comprehending the text are limited; therefore, it is important for students to learn to read with little effort so they can focus on the meaning of the text (Hougen, 2015). At the Tier 2 level, fluency is essential; but at this point, students must begin to take responsibility for their fluency progress. Although gains in fluency for the secondary student may be slow, it is possible; and students should be encouraged to read a variety of texts as much as possible (Shanahan, 2014).

Vocabulary

Approximately 70% of secondary students experience difficulties with reading

comprehension and vocabulary (Biancarosa & Snow, 2006). Student vocabulary knowledge correlates directly with their comprehension of complex texts and literary success (Baumann & Kame'enui, 2004). Word knowledge is critical for reading comprehension, but comprehension is more than just reading words and knowing their meaning. However, if a proportional amount of the words in a text are unknown to a student, their comprehension is impossible (Hirsch, 2003). There are significant gaps in the vocabulary knowledge that some children bring with them to school. Students who lack basic vocabulary understanding find the task of reading understanding quite difficult; therefore, they read less, which continues the cycle of the growing literacy gap (Baumann & Kame'enui, 2004).

Comprehension

The main purpose of reading is to gain knowledge or pleasure from text. There is a great deal of research to support that direct instruction of comprehension skills play an important role in student success. Small group reading interventions provide an environment where teachers are able to model comprehension strategies and allow close observation of guided and independent practice (Phelps, 2005). Comprehension strategies for struggling readers should focus on multiple targets, continuation of the reinforcement of core literacy practices in all content areas, the increasing intensity of comprehension instruction through each tier, the activation of student prior knowledge about topics, and the explicit introduction of academic vocabulary in each content area (Faggella-Luby et al., 2009).

Student Identification Through Universal Screenings

In the MTSS model, universal screenings are used to determine which students

may need to be closely monitored and receive more intensive reading interventions. The screenings serve multiple purposes for the educator. First, the screenings identify students in need of Tier 2 interventions in a content area. Next, the screenings provide feedback for the teacher to help gauge the effectiveness of the Tier 1 core instruction. Last, if given consistently, the screenings can catch students who begin to fall behind at later points in the school year (National Research Center on Learning Disabilities, 2006).

CBMs, when used in the process of universal screenings, provide a measure of academic literacy skills that help to identify students in need of more intensive academic support (Stevenson, 2015). Accuracy of a universal screening measure is determined by the norms that are set. A cut score represents a point by which students are classified as at risk or not at risk. The problem-solving team is tasked with collaborating to plan for the implementation of the screening and the identification of students at risk (National Research Center on Learning Disabilities, 2006).

Universal screenings are given to all students at the beginning, middle, and end of each school year. The easyCBM MCRC assessment is a broad screening measure aligned with grade-level ELA standards. Students are given a grade-appropriate passage, and they answer 20 multiple choice questions ranging from literal to inferential. This assessment is not timed; however, it typically takes between 30 and 45 minutes to complete. Students are allowed and encouraged to use the text as often as they need. The MCRC assessment can be given at any time and to any number of students at the same time; scoring is based on the total of questions answered correctly on the measure (Stevenson, 2015). After screenings are completed, scores are then entered into a working tier document. Students are given 1 point for every question of 20 that is answered correctly. The scores are

categorized by percentile as noted in Table 1. Behavioral Research and Teaching at the Universal of Oregon conducted research and created norms to represent reading performance (Saven et al., 2014). Students scoring below the 25th percentile at each screening are considered for more intensive reading interventions, if these academic behaviors are also noted by regular education teacher. After the measure is completed and scores have been determined and analyzed, teams then review the results and organize at-risk students in homogenous instructional groups. This begins the Tier 2 step in the MTSS process (Stevenson, 2015).

Table 1

Easy CBM Norm References

Percentile	Fall	Grade 6 Winter	Spring	Fall	Grade 7 Winter	Spring
10 th	9	9	9	8	9	7
25 th	13	11	12	11	12	10
50 th	15	14	15	14	15	12
75 th	17	16	17	16	17	14
90 th	18	17	18	18	18	16

MTSS is designed as a schoolwide system to meet individual student needs through intense and focused interventions and assessment measures. These interventions provide scientific, research-based strategies with consistent monitoring of student progress (Hunley & McNamara, 2010). Researchers pointed to four common implementation steps to effectively attain the best results within this framework: schoolwide screening with a focus on strong core instruction, tiered service delivery of effective supplemental interventions, progress monitoring throughout interventions, and fidelity of implementation (Johnson et al., 2006; VanDerHeyden et al., 2016).

The first step of implementation is designed to not only screen students and

determine who might be in need of close monitoring, but also to identify weaknesses in the core curriculum. Universal screening measures are adopted to ensure consistency in the academic areas. The screening data offer three perspectives: (a) the identification of individual students who need interventions and further assessments which may result in Tier 2 interventions, (b) class performance feedback as an analysis of the Tier 1 core instruction, (c) identification of students who do not flag as at risk until later in their school years (Johnson et al., 2006). With the data incurred during universal screenings, teachers are able to be proactive and preventive in their Tier 1 instruction. Tier 1 instruction is more commonly referred to as core instruction that every student is met with in the general education classroom. This intervention is categorized by high-quality, research-based instruction using practices that ensure that any student deficits cannot be attributed to the quality of instruction (VanDerHeyden et al., 2016).

The second step of implementation involves a focus on secondary interventions, referred to as Tier 2. When a student's universal screening results indicate a deficit, research-based instructional interventions are implemented. In this level of implementation, staff members typically increase the intensity of instruction in one or more ways.

This second tier consists of the collaboration of Tier 1 general education instruction as well as specific interventions to address critical educational deficiencies. The secondary level of prevention usually involves small group instruction which can be received in several ways. In some schools, students remain in the regular education classroom and receive additional literacy instructions from a reading specialist or interventionist. In other settings, instruction is provided during an enrichment time in

which each student is involved in specialized learning groups. Some school settings also provide time during electives for this level of secondary instruction (Johnson et al., 2006). These interventions are characterized by a higher level of instructional intensity as well as close progress monitoring of student growth. It is important that Tier 2 interventions are research-based, effective strategies that are different from the regular education curriculum material. If this level of instruction is successful, a student may remain here until progress is maintained steadily or the student meets appropriate grade-level norms (NCRI, 2013b).

When changes in the secondary level of intervention such as session length, frequency, or group size are unsuccessful for a student, they may be transitioned to the tertiary level of instruction. Vaughn and Linan-Thomas (2003) stated, “Recent research has suggested the most productive model for improving outcomes for students with learning disabilities is one in which students’ instructional gaps are identified, progress relative to the gaps is monitored, and explicit and intensive instruction provided” (p. 145). The upper point of the pyramid addresses the needs of the 2-7% students who are not making progress at the Tier 2 level. With the need for the intensity of interventions to increase, the student group size must decrease to only one to three students. The length of time for the sessions may increase as well as the number of days per week. Progress monitoring continues at this level to help the teacher decide if changes in instruction are needed. The National Center on Intensive Intervention (2015) at American Institutes for Research noted a framework of how standards-aligned instruction for comprehension skills can be taught through the framework of MTSS. At the Tier 3 level, it is suggested that the intervention provide the following:

1. The use of progress monitoring to identify specific skill deficits.
2. Access to text at the students' level broken into small sections.
3. Pre-teaching content and background knowledge for comprehension.
4. Explicit review of vocabulary and content-specific words.
5. Teach concrete concepts such as who, what, when, and where.
6. Incorporate behavioral and social self-regulating organizational skills.
7. Progress monitor weekly and adjust instruction as needed.

When a student shows little growth and low achievement after receiving high-quality instruction with increasing intensity, it may be due to a learning disability. Information from a student's progress during this tertiary instruction can assist staff in determining if a student could be eligible for special education services (North Carolina MTSS Implementation Guide LiveBinder, 2021).

Summary

The MTSS/RtI framework includes several important features. Implementation focuses on high-quality, effective instruction; universal screenings for all students; research-based instruction; and data-based decision-making (Fuchs et al., 2012). The problem-solving approach suggested by the MTSS/RtI model guides the supports and resources as well as monitors student data to assist in understanding the effectiveness of instruction and interventions (North Carolina MTSS Implementation Guide LiveBinder, 2021). With the idea of MTSS on the rise in the field of education, research is crucial in understanding how early interventions into academics as well as behaviors can play an integral part in student success.

Though the roots of RtI are in special education, MTSS has taken on a much

broader interpretation. The problem-solving approach using high-quality performance data advocates for school systems to use all resources available as well as monitor data in order to determine the effectiveness of research-based interventions (Harlacher, n.d.). While many schools and districts have implemented MTSS and/or RtI, the research of how effective this type of intervention could be for at-risk middle school readers is an important piece on which policymakers need to focus. The focus of this study was on the implementation of Tier 2 reading interventions as well as the impact of MTSS on Tier 1 core instruction. Tier 2 of the MTSS process represents a line of defense for lowering the number of students who are performing below grade level and possibly even referred for special education evaluation. Providing evidence-based instructional interventions along with research-based instruction at Tier 1 can make a difference in a student's ability to meet mastery level. When implemented properly, along with data-driven progress monitoring, small group interventions can provide support to struggling students by acknowledging and addressing specific skill deficits (National Research Center on Learning Disabilities, 2006).

Chapter 3: Methodology

Introduction

Accountability for student success has become the main focus of schools in the United States. The lack of sufficient reading skills affects a student's success across the curriculum. Studies appraising the effectiveness of specific reading interventions often have certain similar characteristics. They usually evaluate a specific intervention program where the researcher controls the implementation procedures, scheduling of the interventions, monitoring of the implementation fidelity, and assessment activities.

The intent of this case study was to describe the case of sixth-grade and seventh-grade teams of ELA teachers who successfully implemented MTSS to improve reading outcomes. These two teams of teachers began full implementation of MTSS at the beginning of the 2017-2018 school year. During the first 2 years of implementation, these grade levels showed significant growth in language arts proficiency. Studying their successful implementation can be a valuable resource not only for this site, but for other sites in the district as well. The purpose of this chapter is to explain the methods used in examining the implementation of MTSS within two specific grade levels through an exploration of the six critical components of the MTSS framework.

Role of the Researcher

As the researcher, I am employed within the district and the school site as an eighth-grade ELA teacher and have served in that position for 6 years. Prior to this position, I taught elementary school in the same county for 14 years. As a former elementary school teacher, I understand the importance of foundational reading skills to not only elementary students but to secondary students as well. The information from this

study will be valuable to the school and district in understanding specific implementation details of the MTSS framework that result in significant growth for Tier 2 middle school students.

When MTSS was implemented at this middle school, it was introduced in sixth grade as a beginning point. Those teachers were trained and coached on the implementation process near the end of the 2016-2017 school year with implementation planned to begin in 2017-2018. As discussion grew around the possibilities, seventh-grade ELA teachers chose to do a partial implementation the same year; however, their training did not occur until the beginning of the 2017-2018 school year. The original plan was for seventh grade and eighth grade to begin the following year, so eighth grade chose to wait; therefore, they were not included in this study.

Along with the fact that eighth grade did not begin MTSS at the same time as the remainder of the school, I am currently an eighth grade teacher. I did not feel that including my own data or the data of the grade level in which I teach would be in the best interest of the study.

Research Methodology

The use of the case study model has become an important part of educational research. Yin (2002) defined a case as “a contemporary phenomenon within its real-life context, especially when the boundaries between a phenomenon and context are not clear and the researcher has little control over the phenomenon and context” (p. 12). Yin provided that a case study does not have a codified design like other research strategies. The term “interpretive research” (Bhattacharjee, 2012, p. 103) is based on the idea that human experiences shape social reality. The interpretive case study is a research strategy

that focuses on certain factors present in a specified setting. Given that there are limited examples of the implementation of MTSS at the middle school level, I chose to focus on qualitative research through a case study approach in order to follow the implementation of two grade levels that, based on benchmark scores, have successfully implemented MTSS to remediate and improve reading proficiency.

The purpose of this study was to describe the implementation of the MTSS remediation-based process by two groups of teachers who continue to show success through core literacy instruction and interventions. Unlike other small reading group studies, this particular study describes the implementation of MTSS in the core curriculum as well as tier interventions in a natural atmosphere. This descriptive case study explored the implementation of MTSS and its ability to boost reading comprehension performance of middle school students receiving Tier 2 interventions as well as research-based core instruction. These students scored below level on universal screenings from the beginning-of-year benchmarks as well as the previous year's EOG assessment. Implementation efforts were examined through collection and analysis of sixth- and seventh-grade focus group teacher discussions, administrator interviews, analysis of professional learning community (PLC) meeting notes, tier plans, archival data, and universal screening data.

The overall research question guiding this case study was, "How can implementation of an MTSS program with ELA students in sixth and seventh grades be described?" This comprehensive question is broken down into six components aligned to the six components comprising MTSS, specifically,

1. How can implementation of multiple tiers of instruction and intervention be

described?

2. How can implementation of the problem-solving process be described?
3. How can implementation of data evaluation be described?
4. How can leadership's communication of the vision of MTSS be described?
5. How can capacity-building infrastructure at the school site be described?
6. How can implementation of team communication and collaboration be described?

This case study used a qualitative research approach to explore the implementation of an MTSS approach leading to documented student success for Tier 2 sixth- and seventh-grade students in reading. A qualitative research approach was selected using the case study method in order to examine the research questions. The study specifically reviewed the implementation of MTSS and Tier 2 interventions on sixth- and seventh-grade ELA students during the 2017-2018 and 2018-2019 school years. Qualitative research was the best approach in order to gather documentation of implementation efforts including the perspectives of the faculty, leaders, and administrators as well as historical data produced as part of these efforts. Qualitative data for this study were gathered through the use of focus group discussions with four sixth-grade ELA teachers, four seventh-grade ELA teachers, a reading interventionist, and a curriculum specialist. Interviews with the principal and curriculum specialist were conducted separately in order to facilitate open and honest dialogue with teacher participants. In addition to a focus group and interviews, data included analysis of PLC meeting notes, tier plans, and archival data related to interventions. The easyCBM universal screening and progress monitoring data were also examined in response to the

success of these ELA teams.

Universal screening is the first step in identifying students at risk for learning difficulties in the MTSS/RtI framework. This operation helps to target those students who show learning deficits after being provided with research-based core instruction (Jenkins et al., 2007). Universal screenings are short assessments focused on target skills conducted with all of the student population, typically given at the beginning, middle, and end of the year (NCRI, 2010). Screening tools must demonstrate reliability and validity in diagnostic accuracy for predicting student learning difficulties (Jenkins et al., 2007). The school of study chose as its screening method at the implementation of MTSS the easyCBM program to provide reading benchmarks and progress monitoring assessments. There are multiple easyCBM measures for reading; however, at the case study site, the MCRC was used to assess student comprehension skills based on their particular grade level. The MCRC consists of narrative fiction passages ranging around 1,500 words followed by 20 multiple choice questions with three answer options. Students are asked to read one passage, which remains available to them for reference throughout the test, in order to answer literal, inferential, and evaluative questions (NCRI, 2010). Items on each measure are ordered from the most literal questions to the most difficult, increasing in difficulty through the test. Students earn 1 point for each correct answer with a possible score of 20 of 20 (Anderson et. al., 2014). According to identified norms, students should score at least 13 of 20 on the beginning-of-year benchmark to be considered at the 25th percentile. Any student scoring below this percentile would be considered at risk (NCRI, 2010). Those students performing below the 25th percentile on universal screenings could then be recommended for Tier 2 services and more individualized interventions.

The easyCBM program, developed through the Office of Special Education in 2006, is an online system that helps with instructional decision-making through benchmark assessments and progress monitoring reporting options. As a universal screening, easyCBMs provide educators with a measure of student performance to determine which students are in need of further academic supports (Fuchs & Fuchs, 2007). The use of CBMs is an important tool in the implementation of MTSS. These measures assess skills such as word recognition and fluency as well as comprehension in order to understand student responsiveness to the instruction (Stevenson, 2015). During the years prior to 2017-2018, ELA EOG scores at the school were below the county and district levels. Adequate yearly progress (AYP) was not being met, and the school report card grade remained at a C or below. The School Improvement Team (SIT) decided to address the inadequate reading proficiency by focusing on improving core curriculum and targeting specific student groups through the implementation of MTSS. Sixth-grade teachers began discussing MTSS and changes towards the end of the 2016-2017 school year, with full implementation during 2017-2018. The seventh-grade team also began implementation as the school year began. During this first year of implementation, those grade levels began to use data to analyze their core curriculum and provide interventions to students in Tiers 2 and 3. After 1 year of implementation, the sixth-grade ELA EOG scores jumped from 59.6% proficient to 67.5% proficient, and seventh grade showed a growth from 56.5% to 65.7%. This was the first time in over a decade that these grade levels showed a proficiency level above 60%. In the following year, 2018-2019, scores again grew, reaching as high as 70.9% in seventh grade. AYP for the 2015-2016 and 2016-2017 school years provided the school with a C grade, and growth had not been met

for many years. The specific reading scores for those years was 57% and 55%.

Data from universal screenings and progress monitoring in 2019 showed that of the sixth-grade Tier 2 students receiving reading interventions, 91% showed growth by the end of the year, while 62.5% met the end-of-year benchmark goals to exit them from Tier 2. Similar results were posted in seventh grade, as shown in Table 2.

Table 2

Progress Monitoring Results

	Number of Tier 2 students	Showing growth toward goal	Met end-of-year goal
Sixth grade	32	91%	62.5%
Seventh grade	30	90%	73%

Through the implementation of MTSS, these two grade levels analyzed their core curriculum and developed a working plan to intervene and assist students in reading success. Post MTSS implementation, the reading scores at this middle school grew. In 2017-2018, the school's AYP reading score exceeded growth and rose to 70% with a B score rating. The following year, 2018-2019, they posted the same. As the 2019-2020 school year began, universal screenings and interventions were a high priority.

Participants

The focus group participants for this study consisted of four sixth-grade ELA teachers, four seventh-grade ELA teachers, a reading interventionist, and a curriculum specialist. Separate interviews were conducted for the curriculum specialist and the lead administrator who worked at the targeted school and supervised the MTSS implementation. The teachers and reading interventionist selected to participate in the study were directly engaged in the implementation and instruction of the core instruction,

tier groups, and progress monitoring. The curriculum specialist located at the school site also served as an assistant administrator. The specialist was an integral part of the implementation process. She provided the majority of the professional development and coaching and took the lead in tracking and informing teachers of the progress on their students through the universal screenings and progress monitoring. MTSS was piloted first in sixth grade at this particular school just before the 2017-2018 school year. Teachers were trained by curriculum coaches on MTSS implementation with the “Keys to Literacy: The Key Comprehension Routine” program of instruction for literacy near the end of the 2016-2017 school year. As understanding of the implementation grew, the seventh-grade ELA teachers were interested in beginning their implementation early and chose to do a partial implementation the same year; however, their training did not occur until the beginning of the 2017-2018 school year. All students in Grades 6-7 were screened in the fall using benchmark easyCBMs. These benchmarks were applied to the fall screening measures and agreed on by the problem-solving team, grouping them into two categories: (a) students who scored at or above the cut line of the 25th percentile were considered to be sustainable through core instruction (Tier 1); and (b) those students who scored below the 25th percentile baseline CBM goal for the beginning of the year were considered at risk for reading difficulties and were categorized as needing Tier 2 interventions. Students were selected to receive supplemental reading intervention based not only on local CBM benchmark scores but also on previous year EOG scores. Students scoring typically below 40th percentile or below Level 3 were not considered to be on grade level. These targeted students received reading interventions for 40 minutes per week with either the regular education teacher or a reading interventionist. By the end of

the first year, 2018, data from universal screenings and progress monitoring showed that 65% of the Tier 2 students receiving fluency interventions averaged over 10 points of growth in just half a year before they progressed to comprehension. Of those receiving comprehension interventions, 95% of the students met the end-of-year benchmark for their grade. Understanding the specific processes serving as the foundation for this remarkable growth can support the site in sustaining this initiative and can provide a blueprint to guide implementation for other sites.

Setting

The setting for this research study was a large rural middle school in a district that consists of approximately 15,000 students with four high schools and four middle schools. This middle school is located in central North Carolina, serving students in Grades 6, 7, and 8. At the beginning of 2018, the school had an enrollment of 928 students. This number remains steady each year, only differing slightly. The ethnic composition of the site was approximately 65% White, 22% African American, 8% Hispanic, and 5% Multi-Racial. Specific ethnicity demographics for the sixth- and seventh-grade groups are presented in Table 3. Approximately 53.7% of the students were considered economically disadvantaged as defined by the percentage of students eligible for federal free and reduced lunch. The average daily attendance rate was 94.9% of the total school population of 928 students, with an average of 22 students per class.

Table 3*Sixth- and Seventh-Grade School Site Demographics by Ethnicity 2018-2019*

	Sixth- and seventh-grade demographics by ethnicity					
	Total grade students	Asian	African American	White	Hispanic/Latino	2 or more race categories
Total Pop. 6 th grade	326	2/<1%	67/21%	216/66%	28/9%	13/4%
6 th Males	164/50%	2/<1%	35/21%	107/65%	14/9%	6/4%
6 th Females	162/50%	0/0%	32/20%	109/67%	14/9%	7/4%
Total Pop. 7 th grade	288	0/0%	65/23%	182/63%	23/8%	17/6%
7 th Males	135/47%	0/0%	27/20%	92/68%	9/7%	7/5%
7 th Females	153/53%	0/0%	38/25%	90/59%	14/9%	11/7%

The school setting where the study took place consistently scored below proficiency in reading on EOG assessments from the early 2000s through 2017 (see Table 4). AYP for the school site consistently received “did not meet” status for multiple years prior to MTSS implementation. The teams at the focus of this study showed a large proficiency growth of 7.9% for sixth grade and 8.6% growth in seventh grade after the first year of implementation, 2017-2018. This was considerably high compared to the growth of the previous few years which averaged <1%. At the end of the 2017-2018 school year, the school growth index was 9.68 and exceeded growth for the first time.

Table 4 shows a comparison of proficiency scores for the school site as well as district- and state-level scores. For the years prior to MTSS implementation, the school site scored at or below the district and state levels. After the 2017-2018 school year, scores grew well above district and state proficiencies.

Table 4

School Site Sixth- and Seventh-Grade 5-Year Proficiency Percentages as Compared With State and District

EOG Year	Schoolwide ELA proficiency	6 th grade ELA proficiency	7 th grade ELA proficiency	District ELA proficiency	State ELA proficiency
2016	56.20%	58.5	58.9	58.3	56.9
2017	55.10%	59.6	56.5	56.1	57.5
2018	64.80%	67.5	65.7	57.5	57.3
2019	64.60%	65.2	70.9	58.1	57.2

Just prior to the beginning of the 2017-2018 school year, MTSS was introduced to sixth grade as a transition period of MTSS at this middle school site. In order to meet the needs of their student population, the seventh-grade team chose to also begin implementation at this time. After 1 year of MTSS implementation in sixth grade, test scores saw a jump, even above those of the district sixth-grade proficiency. At the end of the 2017-2018 school year, the sixth-grade ELA proficiency had grown to 67.5% from the previous year of 59.6%. During the subsequent year, as the same set of teachers continued MTSS for ELA, their scores ranked almost 10% higher than the district proficiency scores. Looking specifically at Tier 2 students in sixth grade, of the 32 in intervention groups, CBM data showed that 91% showed consistent growth toward their end-of-year goals in literacy, while 53% actually met their end-of-year goals and were considered at grade level. Of the seventh-grade Tier 2 students, data expressed that 90% of those 30 receiving interventions showed growth, and 73% of them met their end-of-year benchmark.

Instruments

The instruments chosen for this qualitative study consisted of focus groups,

individual interviews, and archival documentation of the implementation of MTSS at the school site. Focus groups are a guided way to allow participants with a diversity of opinions to communicate and collaborate about their ideas regarding a topic (McMahon, n.d.). Group interviews result in data that paint a larger picture than surveys of how the individual perspectives about a topic fit together. Group interaction between members helps to encourage participation and makes connections between concepts (Grudens-Schuck et al., 2004). Focus groups and interviews can also offer insight and provide a deeper understanding of a phenomena that is being studied; in this case, the implementation of MTSS at a particular school site.

The focus group items were developed with the research questions in mind, focusing on the planning, implementation, collaboration, and results of MTSS in sixth and seventh grades at the school of study. The critical components of MTSS guided the development of the focus group questions. The critical components considered were multiple tiers of instruction and intervention, problem-solving process, data evaluation, leadership, capacity building infrastructure, and communication and collaboration. The focus group items and discussion were meant to gain a better understanding of how the staff developed and maintained these components throughout implementation.

The focus group participants for this study consisted of four sixth-grade ELA teachers, four seventh-grade ELA teachers, and a reading interventionist who provided many of the small group interventions. A separate focus group discussion was conducted with each grade level, sixth and seventh. The reading interventionist for each grade level was included, since they worked with the ELA teams to develop and provide the interventions. Separate interviews were conducted with the site-based curriculum

specialist as well as the lead administrator who worked at the targeted school and supervised the MTSS implementation. Participants were sent a letter asking for their participation in the focus group or interview and the purpose behind it as well as permission to record for further analysis. It also outlined how the teachers who voluntarily participate in these focus group will elaborate on their participation of MTSS implementation through a semi-structured interview protocol (see Appendix). The structure of the focus groups and interviews helped teachers and administrators describe their perceptions and role while giving them the freedom to discuss their understanding of the framework of MTSS.

Following each of the focus group sessions, the discussions were transcribed into workable data which were used for analysis. Through the discussion, I sought to discover information about the MTSS process through the focus group items in Table 5 for teachers and interventionist.

Table 5*Focus Group Items for Teachers and Interventionist*

Focus Group Items – Teachers & Interventionist
<p>Three-Tiered Instructional/Intervention Model</p> <ul style="list-style-type: none"> • Describe how Tier 1 (Core) literacy practices identify learning standards. • Explain how intervention groups are determined and managed. • Explain how Tier 2 academic practices address common student needs using assessments and data sources. <p>Data-Based Problem-Solving</p> <ul style="list-style-type: none"> • Explain how universal screening and progress monitoring data inform your classroom instruction. • Explain how progress-monitoring data is used to determine students considered at risk. • Describe how instructional and intervention plans are developed and implemented. <p>Data Evaluation</p> <ul style="list-style-type: none"> • Explain how universal screening and progress monitoring data inform your classroom instruction. • In what ways do you feel that MTSS has impacted student success in other content areas? • Does staff understand and have access to academic data sources that address at-risk students? <p>Leadership</p> <ul style="list-style-type: none"> • What is the leadership team’s vision for MTSS? • How is administration involved in the implementation of MTSS? • What professional development and coaching to support MTSS implementation is offered? <p>Building the Capacity/Infrastructure for Implementation</p> <ul style="list-style-type: none"> • Tell me about the professional development that you received related to implementation of MTSS. • Tell me about the types of training that staff has received on the different types of interventions. • Are you provided with adequate time for training and coaching support? Explain. • Explain how scheduling at your school site provides for time for multiple tiers of evidence-based instruction and interventions. Is this time adequate? • Describe the resources available to support MTSS implementation at your school site. <p>Communication and Collaboration</p> <ul style="list-style-type: none"> • How has MTSS impacted the way your team collaborates through your Professional Learning Communities? • Explain how your team collaborates to identify research-based core instructional material as well as intervention materials. • How equipped are staff in addressing the needs of diverse learners? • Explain how the school engages family and community involvement in the MTSS process.

Administration is interested in how MTSS has developed at the school site and what role it has played in student growth. The interview items in Table 6 addressed

administration. Archival data of PLC notes, testing scores, progress monitoring data, curriculum specialist notes, and professional development data were also made available to me.

Table 6

Interview Items for Administration

Interview Items – Administration
<p>Data-Based Problem-Solving</p> <ul style="list-style-type: none"> • Describe how instructional and intervention plans are developed and implemented. • Explain how universal screening and progress monitoring data inform your strategic school plan. • How equipped is your staff in addressing the needs of diverse learners? <p>Data Evaluation</p> <ul style="list-style-type: none"> • In what ways do you feel that MTSS has impacted student success at your school site? • Do staff understand and have access to academic data sources that address at-risk students? <p>Leadership</p> <ul style="list-style-type: none"> • What is the school's vision for MTSS? How is that vision communicated? • How are you involved in the implementation of MTSS? <p>Building the Capacity/Infrastructure for Implementation</p> <ul style="list-style-type: none"> • Tell me about any MTSS implementation professional development that you received as an administrator. • How do you provide adequate time for training and coaching support? Explain. • Explain how scheduling at your school site provides for time for multiple tiers of evidence-based instruction and interventions. <p>Communication and Collaboration</p> <ul style="list-style-type: none"> • How do you encourage collaboration through Professional Learning Communities? • Explain how the school engages family and community involvement in the MTSS process.

Data Collection and Analysis

There are a number of approaches used to analyze qualitative data. The constant comparison analysis, developed by Glaser and Strauss (1967), also is known as a method of constant comparison. It is also used to analyze many types of data including data from

a focus group or interview. This type of comparison analysis is characterized by three stages which were used in this study (Onwuegbuzie et al., 2009).

- Stage 1. Recorded and transcribed data are chunked into small units and a descriptor is attached to each of the units.
- Stage 2. Descriptors are grouped into categories based on the research questions.
- Stage 3. Researcher develops one or more themes that express the content of the groups.

Qualitative data require researchers to use a combination of approaches in order to manage the large amount of data that can be collected during a focus group. While there are many sources of data from a focus group, I analyzed the actual text (transcript of discussion) for my analyses (Onwuegbuzie et al., 2009). The data analysis began during data collection by observational notetaking as well as recording of the focus group interview for transcription later. Immediately afterwards, the recording was transcribed to an abridged transcript focusing only on the research questions that result in a better understanding of the study. My research summary and anecdotal notes were then added to the analysis in order to get a sense of the whole discussion before breaking it apart. The next step involved developing a framework of ideas that arose from the text. Research questions were used as the set themes into which the data were sorted and tagged. In addition to the specific focus group and interview items aligned to research questions already presented, other data sources were consulted to triangulate information gained from the teachers, reading interventionist, curriculum specialist, and administrator. These sources are presented in Table 7.

Table 7*Qualitative Methods*

Research questions	Instruments	Data analysis
1 How can implementation of multiple tiers of instruction and intervention be described?	<ul style="list-style-type: none"> • Archival data maintained by sixth- and seventh-grade ELA PLC. • Student and group tier plans for interventions. • Focus group interviews of teachers, interventionist, and administration. 	<ul style="list-style-type: none"> • Using qualitative content analysis, archival ELA PLC data as well as student and group tier plans were coded by themes based on research questions. Relevant data were identified and coded by examining the content and background of the text. These themes were used to address the research question subgroups pertaining to the implementation of multiple tiers of instruction. • Transcription of focus group recordings where descriptors are grouped into categories and themes were developed within the data through constant comparison method.
2. How can implementation of the problem-solving process be described?	<ul style="list-style-type: none"> • MTSS problem-solving team notes focusing on how student goals were addressed. • Focus group interviews of teachers, interventionist, and administration. 	<ul style="list-style-type: none"> • Using qualitative content analysis, archival MTSS problem-solving team notes were analyzed and coded by themes based on research questions. Relevant data were identified and coded by examining the content and background of the text. These themes were used to address the research question pertaining to the problem-solving team process at the school site. • Transcription of focus group recordings where descriptors were grouped into themes specifically focusing on the problem-solving process.
3. How can implementation of data evaluation be described?	<ul style="list-style-type: none"> • Student progress monitoring archival data maintained by sixth- and seventh-grade ELA PLC and curriculum specialist. • Focus group interview questions targeting how data were evaluated and how decisions were made in regard to student growth. 	<ul style="list-style-type: none"> • Using qualitative content analysis, archival student progress monitoring data was analyzed. Relevant data were identified and coded by examining the content and background of the text. These themes were used to address the research question pertaining to data evaluation. • Analysis of themes from focus group interviews related to the use of data evaluation in student placement in tier groups.

(continued)

Research questions	Instruments	Data analysis
4. How can leadership's communication of the vision of MTSS be described?	<ul style="list-style-type: none"> • Interviews with administration about professional development for MTSS. • SIT notes regarding the implementation of MTSS. 	<ul style="list-style-type: none"> • Themes from interviews with administration were analyzed focusing on the vision of MTSS at the school site. • Using qualitative content analysis, archival notes from SIT addressing implementation of MTSS were analyzed and coded by theme. Relevant data were identified and coded by examining the content and background of the text. These themes were used to address the research question subgroups pertaining to leadership's communication of the vision of MTSS.
5. How can capacity-building infrastructure at the school site be described?	<ul style="list-style-type: none"> • Focus Group interview questions targeting capacity-building infrastructure. • Professional Development for MTSS implementation • SIT notes regarding MTSS planning. • Archival data maintained by sixth- and seventh-grade ELA PLC. 	<ul style="list-style-type: none"> • Themes from focus group transcripts targeting professional development and capacity-building infrastructure were analyzed and coded. • Using qualitative content analysis, archival notes on professional development, SIT notes, and ELA PLC notes were analyzed. Relevant data was identified and coded by examining the content and background of the text. These themes were used to address the research question pertaining to capacity-building infrastructure.
6. How can implementation of team communication and collaboration be described?	<ul style="list-style-type: none"> • Archival data maintained by sixth- and seventh-grade ELA PLC. • Focus group questions addressing communication. 	<ul style="list-style-type: none"> • Using qualitative content analysis, archival ELA PLC notes, were analyzed. Relevant data were identified and coded by examining the content and background of the text. These themes were used to address the research question pertaining to team communication and collaboration. • Themes from focus group transcripts were analyzed targeting team communication and collaboration throughout the MTSS implementation.

Quirkos online software was used in the management of the research text. The Quirkos software is designed to manage sections of text correlating to a specific theme. Once data for the study were collected and focus groups and interviews were transcribed, all text was entered into the software database. The coding process in Quirkos is a manual

process that allows the researcher to work with multiple sets of data including interview transcripts, focus group transcripts, documents, and other research points. The research question subgroups became the themes through which I analyzed the data. Coding is how the researcher defines selected text as being relevant to a particular topic. These themes were then used to code relevant sections of the text into those categories.

Along with the analysis of focus group information, another portion of this study was an analysis of historical documents. Since documents can provide background information as well as historical understanding of the specific issues being researched, a collection of archival data from 2016-2019 addressing the implementation of MTSS was used to gain a broader understanding of why these groups have been so successful. This method of qualitative research required that the data be examined in order to gain understanding, draw meaning, and develop knowledge (Corbin & Strauss, 2008). The analytical process includes the finding, selecting, appraising, and synthesizing of data in particular documents. The document analysis yields data that are then organized into themes which, when used in combination with other research methods, serve as a means of triangulation (Bowen, 2009). By triangulating data, researchers attempt to corroborate findings across data sets from different methods of research. Documents can provide information which could suggest that other questions need to be asked or other studies conducted as well as track the changes and development of an idea. Historical documents in a qualitative study provide context and background and serve as a means of gathering data when participants may no longer remember specific details (Bowen, 2009).

For this study specifically, documentation generated by the MTSS process was examined through the lens of specific MTSS components. Information from the

documents were compared to the definition of MTSS component constructs. Tier plan documents were used to support the description of multiple tiers of instruction and intervention within the MTSS framework. Archival data maintained by the sixth- and seventh-grade teachers in their PLC meetings addressing the implementation and development of tier groups, along with teacher and reading interventionist focus group, and separate interviews with the curriculum specialist and lead administrator were used to triangulate data addressing the implementation of multiple tiers. MTSS problem-solving team notes focusing on how individual student goals were developed and addressed along with focus group questions pertaining to the problem-solving process were compared in order to understand the process of implementation. Student progress monitoring data and focus group interviews were analyzed to understand the implementation of data evaluation and how the data support the development of tier groups and their unique focus. Interviews with administration and the curriculum specialist, focus groups with sixth- and seventh-grade ELA teachers, and SIT notes discussing the implementation and vision of MTSS were used to triangulate multiple sources of data to show to what extent leadership communicates the vision of MTSS. Focus group interview questions about professional development offered to the staff prior to and during the MTSS implementation as well as SIT notes addressing the implementation process and archival data from sixth- and seventh-grade ELA PLCs were used to triangulate an understanding of how the school site built its infrastructure to maintain MTSS in the future.

Through the constant comparison analysis, the data for each research question were analyzed and chunked into smaller meaningful parts in order to code similar chunks and group by similarity. Coding was conducted through three steps. In Step 1, I

developed and applied codes that represent a theme or an idea. In the case of this study, the codes relate to the six critical components of MTSS upon which the research subquestions are based. In Step 2, I identified patterns and relationships through word or phrase repetitions, primary and secondary data comparisons, metaphors, and missing information. These common themes or patterns were notable across all data methods. In Step 3, I attempted to find and write a hypothesis for the phenomena. The multiple types of data in this study were used as tools to triangulate results in order to generate more meaning and enhance the legitimacy of the findings.

Document analysis provides advantages and limitations. Some of the advantages are that documentation can be a cost-effective, less-obtrusive, nonreactive, and efficient method of analysis. The limitations can be insufficient details due to the fact that they are created for means other than research and may not be thorough. They can also be difficult to access if documentation was not kept properly. In the case of this study, all documentation was kept electronically and was made accessible to me for further analysis. The analysis involved the process of organizing the information into related categories which correlate with each research question. Thematic analysis is a type of pattern recognition within the data which is used to uncover themes to triangulate with other data forms (Bowen, 2009).

In the case of this study, a review of the documentation provided background information that assisted in understanding the context in which MTSS was implemented. The constant comparative method guided the data analysis by identifying patterns in the data. The archival research included both electronic and hard copy data which included PLC notes, tier plans, SIT meeting notes, and data evaluation meeting notes. The codes

for data analysis were grouped into categories based on the six components of MTSS: multiple tiers of instruction, problem-solving, data evaluation, leadership, capacity building infrastructure, and team communication and collaboration. These codes were compared across focus groups, interviews, and historical documentation. I compared these codes looking for which ideas are mentioned in multiple documents and analyzing patterns within.

Summary

This study explored the implementation process of the MTSS/RtI framework in a middle school setting as well as its effects on a group of sixth- and seventh-grade students. From this study, I learned from a group of teachers at a particular school who are attempting to change how middle schoolers are receiving reading instruction and interventions. This case study considered the different components of MTSS and explored the function of implementation, while seeking to understand how these components addressed student literacy needs. It also investigated perceptions of those ELA teachers, interventionists, and administrator on the implementation process and perceived growth in student reading performance.

Chapter 4: Results

Introduction

The purpose of this research study was to examine how school leaders and educators implemented strategies and procedures in order to create the conditions that resulted in the successful implementation of MTSS at their school site. Specifically, this case describes sixth-grade and seventh-grade teams of ELA teachers who successfully implemented MTSS strategies to improve reading outcomes. This research will be valuable for administrators at the site as well as other schools and school districts who are working to implement MTSS into their curriculum.

This chapter explains the methods used in examining the implementation of MTSS within two specific grade levels through the exploration of the six critical components of the MTSS framework. The first part of this chapter provides an explanation of the context of the study to orient the reader to the experiences of the participants as they implemented the MTSS model. The overall research question guiding this case study was, “How can implementation of an MTSS program with ELA students in sixth and seventh grades be described?” This comprehensive question is broken down into six components aligned to the six components comprising MTSS, specifically,

1. How can implementation of multiple tiers of instruction and intervention be described?
2. How can implementation of the problem-solving process be described?
3. How can implementation of data evaluation be described?
4. How can leadership’s communication of the vision of MTSS be described?
5. How can capacity-building infrastructure at the school site be described?

6. How can implementation of team communication and collaboration be described?

Through a series of interviews and focus groups, in combination with document analysis, I was able to create an overview of the implementation of MTSS in one public middle school in North Carolina. In this chapter, I provide summaries of the implementation through the analysis of grade-level focus groups, administrator interviews, and MTSS and PLC documentation.

The six critical components were outlined by NCDPI (2019a) as being necessary for the effective implementation of MTSS in North Carolina. These six critical components provide the means for the early detection and identification of student needs through data-driven problem-solving and were adapted from a similar framework created for RtI and MTSS implementation in Florida (Sugai & Horner, 2009). These categories were used to organize the information I obtained from my interviews, focus groups, and document analysis. They also provided me with the framework for discussing my findings while relating the experiences of MTSS implementation from educators and administration at this particular school. In the following sections, I highlight each of the critical components of MTSS and outline recurring themes that emerged from data and conversations with the educational stakeholders.

The a priori themes were aligned to the research questions which were in turn aligned to the MTSS framework. Since the MTSS framework is categorized into six components, the themes naturally surfaced from this framework. Within this chapter, I outline how the school prepared for MTSS implementation and applied it in their practice. Additionally, I provide a thematic review of the data collected through

interviews, focus groups, and MTSS implementation documents.

Findings

This detailed narrative reflects the experiences and perceptions of the educators and administration in one middle school as they explored and implemented an MTSS framework. MTSS, at its inception, was implemented solely at the elementary level. As students in the respective tiers moved into secondary education, it made sense to continue those interventions through to the next grade level. The district-level MTSS leadership team came together and created specific trainings and protocols for proper implementation at the secondary level. The district-level leadership team provided individual school site MTSS training as well as district support meetings monthly. Leadership teams were created at the school sites, which included administration, school psychologist, counselor, EC teacher, curriculum specialist, and lead teachers. This site-based leadership team focused on the schoolwide implementation of the multiple tiers as well as provided guidance for teachers and staff. The journey of MTSS began at this middle school during the 2017-2018 school year. In early September, all students were given a beginning-of-year common assessment screening benchmark, not only to determine individual student needs but also to provide a schoolwide needs assessment for school improvement planning. For the time period of the study, 2017-2018, common assessments were compiled through the use of easyCBMs. In 2018-2019, the use of STAR (Standardized Test for the Assessment of Reading) testing results through Renaissance learning were used. In both cases, literacy data decisions were based on a predetermined benchmark. Students who scored below the 40th percentile on those assessments are considered to need additional literacy instruction. At that point, the

MTSS grade-level teams, most often the PLC team, met to discuss specific student and group needs, as well as fidelity of instruction and student RtI. Through these PLC discussions, the ELA teams discussed planning for effective core instruction, grouped students in need of intervention instruction, and reflected on intervention instruction. Through the analysis of each of the research questions, I outline how the school site implemented the six components of MTSS through their planning and practice.

Participants

The focus group participants for this study consisted of four sixth-grade ELA teachers, four seventh-grade ELA teachers, and a reading interventionist who provided small group instruction. Separate interviews were conducted for the site-based curriculum specialist as well as the lead administrator who worked at the targeted school and supervised the MTSS implementation. The teachers and interventionist selected to participate in the study were directly engaged in the implementation and instruction of the core instruction, tier groups, and progress monitoring. MTSS was piloted first in sixth and seventh grades at this particular school just before the 2017-2018 school year. All students in Grades 6-7 were screened in the fall using benchmark easyCBMs. These benchmarks were applied to the fall screening measures and agreed upon by the problem-solving team, grouping them into two categories: (a) students who scored at or above the cut line of the 25th percentile were considered to be sustainable through core instruction (Tier 1); and (b) those students who scored below the 25th percentile baseline CBM goal for the beginning of the year were considered at risk for reading difficulties and were categorized as needing Tier 2 interventions. Students were selected to receive supplemental reading intervention based not only on local CBM benchmark scores but

also previous year EOG scores. Students scoring typically below the 40th percentile or below Level 3 are not considered to be on grade level. These targeted students received reading interventions for 40 minutes per week with either the regular education teacher or a reading interventionist. By the end of the first year, 2018, data from universal screenings and progress monitoring showed that 65% of the Tier 2 students receiving fluency interventions averaged over 10 points of growth in just half a year before they progressed to comprehension. Of those receiving comprehension interventions, 95% of the students met the end-of-year benchmark for their grade. Understanding the specific processes serving as the foundation for this remarkable growth can support the site in sustaining this initiative and can provide a blueprint guiding implementation for other sites.

Setting

The setting for this research study was a large rural middle school in a district that consists of approximately 15,000 students with four high schools and four middle schools. This middle school is located in central North Carolina serving students in Grades 6, 7, and 8. At the beginning of 2018, the school had an enrollment of 928 students. This number remains steady each year, only differing slightly. The ethnic composition of the site was approximately 65% White, 22% African American, 8% Hispanic, and 5% Multi-Racial. Approximately 53.7% of the students were considered economically disadvantaged as defined by the percentage of students eligible for federal free and reduced lunch. The average daily attendance rate was 94.9% of the total school population of 928 students, with an average of 22 students per class.

The school setting where the study took place consistently scored below

proficiency in reading on EOG assessments from the early 2000s through 2017 (see Table 4). AYP for the school site consistently received “did not meet” status for multiple years prior to MTSS implementation. The teams at the focus of this study showed a large proficiency growth of 7.9% for sixth grade and 8.6% growth in seventh grade after the first year of implementation, 2017-2018. This was considerably high compared to the growth of the previous few years, which averaged <1%. At the end of the 2017-2018 school year, the school growth index was 9.68 and exceeded growth for the first time.

Data Analysis

Through qualitative methods, data were collected through interviews with site administration and the curriculum specialist as well focus groups with sixth- and seventh-grade ELA teachers and the interventionist. With the themes already in place based upon the six MTSS components, data were organized into these particular themes through a qualitative analysis software, Quirkos. The data analysis process followed these specific steps. Recordings were made of each interview and focus group to ensure no relevant data were misinterpreted. Transcripts were then made and read several times before being entered into the analysis software. Groupings of annotated notes from PLC data, MTSS problem-solving notes, and SIT notes also were analyzed through the lens of the MTSS components described through the research questions.

Research Question Component 1: How Can Implementation of Multiple Tiers of Instruction and Intervention Be Described?

This research question component examined the implementation of the three-tier model of instruction, specifically how Tier 1 (core) literacy standards were addressed, how intervention groups were determined and managed, and how the Tier 2 interventions

addressed specific and cumulative student needs. Grade-level PLC notes, student and group intervention tier plans, and focus group interviews with teachers were used to gain an understanding of the process. The following is a discussion of my findings.

MTSS implementation required educators to examine each student's performance as an integrated whole-child perspective with instructional and intervention practices. As noted by McIntosh and Goodman (2016), "The focus of Tier 1 is optimizing learning and preventing problems as early as possible" (p. 114). McIntosh and Goodman went on to say, "Tier 1 practices are not selected specifically in response to individual challenges, but rather to maximize success for all students in all areas" (p. 114). The school site being studied implemented a three-tiered model for MTSS. Those tiers were implemented in my description below.

Tier 1: Focus on Core Instruction. Tier 1 instruction is the core curriculum which focuses on instructional strategies that include the Common Core State Standards provided by the general education teacher within the general education classroom (NCRI, 2013a). According to the MTSS framework, core instruction should adequately serve approximately 85% of the population. The school setting where the study took place consistently scored below proficiency in reading on EOG assessments from the early 2000s through 2017. AYP for the school site consistently received "did not meet" status for multiple years prior to MTSS implementation. Leadership recognized the need to address student needs by strengthening core instructional practices in the classroom. This proactive step required the school to examine and reallocate its resources and to modify the master schedule to provide professional development in order to train staff on best practices in literacy and math.

Education leaders such as the curriculum specialist, media specialist, and core curriculum teachers as well as administrators worked together to define the grade-level expectations for core academics. School leadership and district leadership provided focused professional development around instructional quality and differentiation in literacy and even mathematics. Together with curriculum coaches, PLCs worked together to revive their pacing guides and lesson plans to reinforce classroom instruction. With a focus on uplifting core instruction, stakeholders hoped to be able to identify students at risk sooner and reduce the number of small group instructional supports. As noted by one of the sixth-grade educator participants,

Starting about 17 years ago when I came, we worked as a PLC to plan our pacing guide by genre. We started first 9 weeks with fiction, second 9 weeks with nonfiction, third 9 weeks poetry, etc. We noticed that students were not retaining information and seemed to forget by the end of the year. In 2017, we were tasked with restructuring our pacing guide and being more specific than simply genres. When we stepped back and looked at the data, we realized that our students were not retaining what we were teaching from one semester to the next. We chose to take on a more spiral approach to our teaching. We did away with teaching by genre because it wasn't effective for us. With the spiral approach, we taught a standard and then built onto it. As we introduced another standard, we spiraled back and reviewed what we previously taught. It kept their minds fresh and in a constant state of review.

Within this Tier 1 framework, the teachers were able to utilize the previous year's data to locate strengths and weaknesses within their own practice. Through PLC meetings, which

are discussed in detail at a later point, educators were able to dig deeper into the district's core curriculum and develop instructional strategies appropriate for the size and diverse learning abilities for each of their specific groups. With any school reform, it is necessary for educators to modify or abandon some practices. Instead of lengthy professional development, the school site chose to use PLC times to provide coaching in literacy instruction. The curriculum specialist provided opportunities for ELA teachers to request specific learning opportunities while also providing evidence-based strategies and practices. Teams began working together to plan and implement instruction, sharing ideas and outcomes. Although the effort to reinforce the core supports at the school saw success, tiered instruction and interventions were still needed to address the needs of the students who did not respond to classroom-based support.

Tier 2: Provide Supplemental Intervention. The installation of an intervention or enrichment time proved to be more challenging for the educators. Creating a master schedule that offered not only time for interventions and supports but also maintained adequate time for all core curriculum was logistically difficult. This master schedule included protected time for literacy instruction as well as intervention and enrichment opportunities and ESL and EC services. The lead administrator said this of the master planning:

Our primary focus in creating a master schedule, is setting up an instructional day that works for every child. Small group instruction has to be conducted with a focus primarily on protecting core instructional time. It is the key to most of our instructional strategies, especially as it relates to MTSS. This schedule is developed by the administrative team and approved by the SIT team using

multiple data points for both teachers and students. As we have focused more on standards and strengthening our core curriculum, our results have improved in both proficiency and most importantly, growth.

The development of the master plan and instructional groups are elaborated more in Component 2 through the problem-solving process.

Other challenges included the lack of small group curriculum programs, staffing for small group instruction, and facility challenges to find places for intervention groups to meet. Participants in the study shared that some educators resisted a designated intervention time. The majority of the educators received their formal training in and had spent the majority of their careers in secondary education. Many of the interventions that would be necessary for the small groups would include fluency and basic level comprehension skills which extended beyond their typical skill set. This caused a great deal of anxiety and discomfort at the change. Others expressed reluctance at losing what they believed was crucial “core instruction” time.

After universal screenings were completed during the first week of school, the data were then entered by the curriculum specialist into a grade-level spreadsheet broken down by ELA or math teachers. A battery of scores including EOG data and attendance were entered to gain a larger picture of each child’s academic strengths and weaknesses. These screenings were completed as close to the beginning of the year as possible so decisions could be made that would best meet the needs of the students.

Despite uncertainty at the onset, staff began to see shifts in teacher perceptions regarding tier supports. Where they were at one time hesitant to send students to other teachers for interventions, they began to share responsibility for all students. Through

“Data-Dive” sessions within each PLC, teachers began to work together to identify the needs of at-risk students and assign them to intervention groups based on their specific skill deficiency.

SIT. The state of North Carolina requires that all public schools have a team in place to develop annual plans for school improvement. The team is composed of peer-selected representatives including school administrators, instructional personnel, support staff, parents, and teacher representatives from each grade level. They are responsible for developing and monitoring school improvement goals. NC Star is used as a platform for structuring school improvement plans and recording progress toward goals. The school leadership team focuses on improving practices for academics, attendance, behavior, and social-emotional needs. They examine EVAAS data, schoolwide discipline, attendance data, universal screening, NC check-ins, and EOG data to assess progress toward goals in the NC Star portal. These leadership teams also develop the master schedule and assist in creating structures to support enrichment and intervention opportunities.

During the 2016-2017, 2017-2018, and 2018-2019 school years, the SITs selected goals that directly reflected their commitment to MTSS and its correlation with school improvement. In the year prior to MTSS implementation, 2016-2017, the focus goal was that instructional teams would develop standards-aligned units of instruction for each subject and grade level. In subsequent years, the goals addressed the full implementation of MTSS structure in Grades 6-7 with the partial implementation in Grade 8 in the following years.

PLCs. PLCs also serve as Tier 1 teams to evaluate the effectiveness of the core instructional practices at each grade level. These teams are comprised of an instructional

coach, grade-level administrator, and teachers at the respective grade level. PLCs meet on a weekly and/or bi-weekly schedule to collect and analyze data regarding student performance on classroom assessments, benchmark assessments, and formative assessments. They use data from these sources to determine specific standards that seem to be problematic for multiple students and then make adjustments to the curriculum as needed. This time is also used for collaborative planning and an opportunity for professional development to take place.

At the time of research, Tier 3 teams had not been put into place. This was intertwined with the EC department.

Research Question Component 2: How Can Implementation of the Problem-Solving Process Be Described?

The second research question component examined how universal screenings and progress monitoring were used to inform instruction, determine at-risk identification, and develop instructional intervention plans for students. Focus group discussions with PLC teams and the reading interventionist, interviews with administration and site-based curriculum specialist, and specific problem-solving team notes were used to gain an understanding of the problem-solving process.

Curriculum coaches and administrators stepped in to help make this discussion more productive and comfortable. Through professional development, educators were able to understand more easily how specific data screeners could be used to support instruction. Educators noted that the coaching support that was received has promoted more positive attitudes surrounding the use of data in instructional decision-making. A seventh-grade teacher had this to say of their support:

Our curriculum specialist played an integral role in helping us to understand that they were not playing gotcha. The discussions that we were having didn't mean that we were bad teachers, just that we all had something to offer and we all had something to learn. Once we got over those feelings of intimidation, we began to open up to each other and to ourselves.

Of those in the focus groups, many reported that they are beginning to see teachers demonstrating increased ownership and responsibility for discussions around data within their PLCs.

Within the problem-solving process, data collection can be overwhelming for educators. Data are collected in education for multiple reasons and with different intentions. McIntosh and Goodman (2016) noted these data collection intentions that apply to MTSS implementation as well: (a) to assess the fidelity of implementation, (b) to screen and identify students with specific needs, (c) to determine needs as a diagnostic assessment, (d) to monitor the progress of students receiving interventions, and (e) to evaluate overall student and school growth.

While many models for data-based problem-solving exist, the four-step problem-solving approach used in most MTSS models includes: (a) defining the goals and objectives to be attained, (b) identifying possible reasons why the goals are not being met, (c) developing a plan for implementing evidence-based strategies to attain goals, and (d) evaluating the effectiveness of the plan. Within this process, the problem to be addressed can be seen as a discrepancy between the observed performance and the expected performance. All factors that can impact student learning are considered through the analysis of the performance data. The leadership teams in the study used data

with the intention of improving outcomes for the students. They selected assessment and diagnostic tools to make data collection more effective and efficient. They outlined the application of specific assessment tools for screening and progress monitoring, when assessments should be administered, and how data collection would be used for decision-making. Remarks from the curriculum specialist were as follows:

The results of universal screening and analyzing EOG data helps the school improvement team to set academic goals for the future. The downward trend of data doesn't just highlight academics but can indicate behavioral issues such as attendance or incompleteness of assignments. These results can also be broken down by subgroups to help the SIT focus on more specific needs within the school.

The problem-solving process of MTSS at this school site is described next.

Step 1: Problem Identification. At the beginning of the year, the school implemented universal screenings to determine the ability levels of all students in literacy and mathematics. The dates for all universal screenings were set by the district on the MTSS School Teams Problem Solving Calendar. The expectation was that all students would be screened within the first 1-2 weeks of the start of the school year. These scores along with other data including EOG scores and attendance were then used to make further determinations. During the first 2 years of implementation, this school used DIBELS fluency for sixth grade only and easyCBMs for sixth- through eighth-grade comprehension. All students were assessed in the exact same way; easyCBM for comprehension was completed in a class setting, while fluency for sixth grade was completed individually by a team over a few days.

The easyCBM program was designed to help provide insight into which students may need additional instructional support as well as a way to measure instructional effectiveness. The assessments, known as CBMs, are standardized measures that sample a year's worth of curriculum to assess mastery of skills and knowledge for each grade level. The benchmark tests screen students and compare them to students in their own grade at a particular time of year.

During the third year of implementation, teams decided to use STAR diagnostic measures. The STAR screening report gives a benchmark, the lowest level of performance that is acceptable by school or by district. Students are categorized in relation to the benchmark. Educators are able to see what proportion of students in a grade level or a classroom are at or above the benchmark and are categorized by urgency of need. Students are placed in these categories through the use of cut scores. These cut scores are guidelines that help to make educational decisions. The cut scores in STAR also correspond with percentiles (Renaissance Learning, 2012). A seventh-grade teacher expressed a common response when discussing STAR:

One of the things that we liked about using the STAR assessment through Renaissance Learning was that we could go in and see specific standards that a single student or a class of students are deficient in. Once the students have all been screened, there are multiple ways to look at their ability levels. If we see that we have an entire class that is deficient in certain standards according to the assessment, we can intervene with the whole class, or just a couple of students. It gives us multiple diagnostic tools from which to choose from.

One of the main reasons this school chose to move to STAR universal screenings,

according to the curriculum specialist, is that the school currently subscribes to Renaissance Learning which they use for Accelerated Reader. The STAR assessment program is included in that subscription; therefore, cost management made more sense to use this program instead of easyCBM. They also offer management of progress monitoring reports and intervention groups as well as the universal screenings.

Step 2: Problem Analysis. During the problem analysis step, the team seeks to answer the question, “Why is the problem occurring?” They use the data to develop a hypothesis to help understand what caused the problem. During this step, it is important to determine if the problem reflects a motivation deficit or a skill deficit.

After universal screenings were completed during the first week of school, the data were then entered by the curriculum specialist into a grade-level spreadsheet broken down by ELA or math. A battery of scores including EOG data and attendance were entered to gain a larger picture of each child’s academic strengths and weaknesses. These screenings were completed as close to the beginning of the year as possible so decisions could be made that would best meet the needs of the students. The administrator made these comments:

These data are invaluable in determining use of resources. Resources in this context is so much more than money, it is primarily people. Putting the right people [teachers with high growth potential] in strategic places, as well as hiring the right interventionists with just the right backgrounds have made a big difference for our students and their growth.

Once the universal screenings were complete, PLC groups met to discuss how these results would be used to implement intervention groups. These assessments were

conducted three times per year in order to assess student growth and progress toward specific literacy goals. During the interview, the curriculum specialist stated,

When universal screening data show that there is a skill deficit with one or more students, the teachers are trained to administer interventions right away in order to meet those lower skill needs. Our teachers understand that even before intervention plans can be developed, they have the ability to intervene and make a difference.

These data scores helped to inform individualized classroom instruction and gave educators a broad look at ability level differences within a single classroom setting. It helped to provide a baseline for looking at differentiation groups within the regular classroom environment.

Step 3: Intervention Planning and Implementation. During this step in the problem-solving process, the team focused on identifying who would be responsible for the implementation of the intervention plan, what would be done, and when and where it would occur. After determining student needs from the universal screenings, MTSS teams began the process of scheduling interventions. The master schedule was created to allocate specified time for tiered interventions. The school established a WIN (What I Need) time in order to provide the opportunity for interventions as well as enrichments for those students working above grade level. The WIN time was scheduled at the beginning of the day such as a homeroom may be. Every grade level participated in 40 minutes of strict intervention from 8:00-8:40 every morning. Support staff (e.g., art teacher, PE teachers, ESL) pushed into classrooms during the instructional block to support enrichment and remediation groups. Teachers and specialists provided

intervention groups across grade levels so students were able to get interventions in the area of greatest need. One focus group participant had this to say about intervention time:

We call our intervention time WIN for “What I Need.” We tried WIN at the beginning of the day and at the end of the day. When we met at the beginning of the day, the kids seemed fresher, maybe not always awake, but more alert than at the end of the day. The groups were mixed within our grade level so each teacher was working on skills that they were more comfortable with. We didn’t mind having each other’s kids but we felt like we knew our own kids better and knew what they needed.

During this instructional period, the majority of students worked on core literacy curriculum or completed enrichment activities in math and science. Students were placed into intervention groups based on skill needs; for example, fluency or comprehension, depending on the grade level. Tier 2 instructional plans were developed for all students receiving individualized intervention supports. Since teachers shared responsibility for the interventions, students would either receive interventions with their own teachers or move to another teacher or interventionist to work in another classroom. This was mentioned in the seventh-grade focus group about progress monitoring:

The curriculum specialist created a spreadsheet where we could keep up with all student progress monitoring. Intervention groups were listed and students were tracked. It noted the baseline score from the universal screening and their projected growth standard to determine what level they were currently at.

A sixth-grade teacher shared this about the instruction groups as well:

Our curriculum specialist played an integral role in the implementation of the

instructional groups. She took a huge load off of the teachers. She created a spreadsheet that listed each of the students, their scores, and whose ELA class they were in. Because we grouped students across team, we were given access to all students. Each time they were progress monitored, she would update their progress and we could track them easily. It helped us to see who was growing and at what rate.

Students assigned to the intervention groups would work on specific skills for 3-4 weeks and would then be progress monitored to determine if the intervention was effective.

Step 4: Evaluate Effectiveness. Evaluating a student's RtI is an important step in this model. The review and analysis of data are necessary to determine if the plan or interventions are working. The plan for intervention is considered positive when the gap between what is expected and what is observed begins to decrease. The student's RtI is considered poor when the gap continues to increase or there is no change.

This step of the problem-solving process is discussed further in the following section on data analysis.

Research Question Component 3: How Can Implementation of Data Evaluation Be Described?

The third component focused on the data-evaluation method. It sought to understand how universal screenings and progress monitoring data were used to inform not only core instruction but tier instruction as well. It also analyzed the tools staff used to access at-risk students. Universal screening and progress monitoring data as well as focus group discussions and administration interviews were combined to target how data were evaluated and the decisions that were made in regard to student growth.

With the implementation of MTSS at the school site, educators were required to collect, analyze, and interpret data in order to make informed decisions about student needs. The shift to MTSS required staff to transition to a data-based way of thinking and problem-solving, which seemed unnatural to many. The school district provided a progress monitoring problem-solving guide for teachers to use as they discussed data and determined the next course of action. This guide suggested that educators follow these specific guidelines:

- Discuss the overall progress of the group and determine if the data indicate that the majority of students are or are not making adequate progress out of risk.
- Discuss the intervention plan for the group and decide if the instructional plan is clear and being implemented to fidelity.
- Discuss the fidelity of instruction and the obstacles to instruction that need to be addressed.
- Discuss individual students whose data indicate that they are not making adequate progress and list suggestions for addressing these instructional needs.
- Identify and discuss students whose data indicate they have made adequate progress.
- List specific students whose data are trending near the 10th percentile and need to be recommended to the individual problem-solving team.

The district MTSS team provided a literacy data decision guide to assist educators in understanding the results of their classroom and student data. According to the

decision guide, STAR literacy student assessment results below the 40th percentile in Grades 6-8 should be provided interventions under the comprehension protocol for supplemental instruction and be progress monitored every 3-4 weeks. Those students falling below the 20th percentile should be provided interventions under the fluency and comprehension protocol for intensive instruction and be progress monitored every 3 weeks. These guidelines helped teachers understand at what level students needed specific interventions.

The MTSS literacy intervention protocols provided by the district offered guidelines for the number of intervention times, group sizes, minimum number of days per week, options for curriculum resources, and instructional methods and support as well as a guide to benchmark scoring. These intervention protocols were used when analyzing student benchmark data and determining the next best course of action. The stakeholders also praised the curriculum specialist for developing user-friendly progress monitoring documentation that was easily accessible for all staff. A sixth-grade teacher noted this about the process:

Our curriculum specialist and assistant principal met with us regularly, sometimes weekly, to discuss data and tier plans. We looked at student growth, who was growing and who was not growing. They asked questions about resources that we may need and discussed questions that we had about the process. Our curriculum specialist handled all of the universal screenings and entered data into the spreadsheet. It took a lot of work off of our hands and allowed us to focus on instruction.

Another large part of the MTSS data evaluation process is its fluidity. The

participants talked about how each of the intervention groups worked on different levels and with different skills and standards. If a student's progress monitoring showed that they were progressing in that group and moved above the 40th percentile mark, they would be moved to another intervention group focusing on a separate skill. According to one sixth-grade focus group participant,

These intervention groups were constantly changing, and that wasn't always a bad thing. With students being placed in groups based on their ability, it gave us a chance to work with them at their place of need. It was also a huge motivator for those who maybe didn't like being pulled into a group. If they worked hard and met their goals, they understood that they could transition to another group.

Many stakeholders associate their understanding of the data with quality coaching and frequent opportunities to practice and talk about results. They explained that understanding the data coupled with a focus on whole group instruction helped them to focus on the bigger picture of student's growth.

Research Question Component 4: How Can Leadership of MTSS at the Site Be Described?

Component 4 focused more on leadership's vision of MTSS than its implementation. It described the role administration played in the implementation process and the professional development and coaching that was offered to staff. Through interviews with administration about their role, focus group questions surrounding teacher perspectives of leadership's role as well as SIT notes regarding implementation and vision, I was able to understand and describe administration's role in the this school's implementation process.

In conducting my research, I interviewed two school principals, one of whom also served as the curriculum specialist. The lead administrator reported that he did his best to attend as many of the professional development sessions and PLC meetings as possible. With the many roles of administrators at the secondary level, the lead administrator felt it was more important to ensure that one of his team members would be given the role of curriculum specialist and MTSS coordinator to ensure consistency through the process. He had this to say about his role in the process:

I believe that my most important role in this process is finding the right person to lead our teachers and provide any and all training necessary to be successful. By creating a schedule that allows teachers to focus on meeting student needs, and providing any resources necessary to assist them, it puts our educators in a situation where they and the students can be successful.

School staff reported that the principal ensured open lines of communication between administration and teachers. Administration addressed professional development needs and provided all resources necessary for implementation. The staff expressed that the administrator/curriculum specialist came to all MTSS meetings and trainings, and they looked to her for guidance during the implementation process as well as for decision-making. One of the sixth-grade teachers noted,

Our administration team has always promoted confidence in its teaching staff. They help us to grow as educators and provide us with feedback and strategies for better teaching. During the MTSS implementation, they helped us to better understand how to use our data to guide not only small group instruction, but core instruction as well.

The building administration communicates the vision and mission to the school staff, through its mission statement which states that the school will provide for every student in a positive school climate to achieve academic and social success. When asked about the vision of the school, the lead administrator had this to say:

Our vision is that our staff goes above, and our students go beyond. I believe that we do that by working with our staff to find their strengths and build from there. We believe that by strengthening our core instruction first, we can make the biggest difference with the largest number of students. We are fortunate to have a very strong group of core teachers that serve the needs of the vast majority of our students. We just may need a few more tools in our toolbox to meet the rest of them.

When the curriculum specialist was interviewed and asked about the school's vision, she said,

Our vision began with understanding that our success begins with a strong core classroom. If our core instruction is not effective, then scores will reflect that and our intervention groups will be larger as a result. Our ultimate goal was to create an atmosphere where students wanted to learn and those who struggle are met with the amount of support they need to continue to grow.

Additionally, educators praised the curriculum coordinator for developing and managing accessible data collection protocols and documentation that were very user-friendly and manageable. The importance of leadership's vision in the day-to day management of MTSS was revealed in all focus groups. Administration stated that their primary role was to ensure that the infrastructure was in place and the resources were available. The most

consistent theme was that administration needs to be involved in the process for it to be taken seriously. The role the teachers saw as integral for administration was the structuring of a master schedule that allowed time for interventions in addition to core instruction. This was how they felt administration had the greatest impact on the MTSS implementation process.

Research Question Component 5: How Can Capacity-Building Infrastructure at the School Site Be Described?

This research question component examined the professional development and trainings staff received at the onset as well as throughout the implementation process. I looked closely at the coaching, scheduling of tiers, and resources available to support the MTSS implementation at the school site. This component, while somewhat addressed before in the training process, widened to get a broader look at the way MTSS is structured into the school day so learning is centered around core instruction, while providing supplemental instruction to at-risk students. Focus group discussions and administration interviews were analyzed along with SIT notes, PLC notes, and MTSS professional development, in order to paint a picture of how MTSS was implemented.

At the inception of NCDPI's rollout of MTSS, this school district began to prepare a team for the implementation process. This team was responsible for developing the resources and protocols necessary to the planning process. As part of this process, the team developed an extensive online resource folder outlining each step of the implementation process. Through this resource, administrators and educators were able to access premade protocol templates, tier plans, and progress monitoring guidelines as well as training videos and instructions on how to implement core and intervention instruction

and understand assessments.

District leaders created the District MTSS Team which built the structures and consolidated resources and tools to support the schools and teachers. According to the district level MTSS online resource platform, the team created and provided professional development courses in effective practices, Tier 2 and Tier 3 literacy intervention protocols, standard treatment protocols, I.C.E (instruction, curriculum, environment) protocols, MTSS everyday resources, instructional routines, critical components, progress monitoring guidelines, and benchmark testing guidelines. These were just a few of the resources provided to schools implementing MTSS in this district. The study revealed that professional development was provided in a variety of ways and has changed over the years based on the current needs.

In the summer of 2017, the lead district curriculum coordinator, in collaboration with site-based curriculum coordinators, developed and presented online resources to introduce the fundamental overview of MTSS. Through district-led and school-based professional development opportunities, the staff was provided with the information needed to understand the essential components. Since all staff would be participating in intervention and/or enrichment groups in some way, the whole staff was trained at the beginning of the 2017-2018 school year. During beginning of the year teacher workdays, sixth- and seventh-grade literacy teachers were provided with training opportunities to support quality instructional core practices. ELA educators were instructed on the district's secondary core instruction blueprint, including the plan for a development of a grade-level pacing guide in order to ensure a standards-aligned curriculum. Guided reading strategies and adolescent literacy strategies were presented in addition to several

specific literacy programs that were presented earlier in the summer. Literacy teachers in the summer prior to implementation were given additional professional development on the Keys to Literacy Program on comprehension, vocabulary, and writing. The curriculum specialist provided multiple formats for learning, including face-to-face trainings, online learning modules, and coaching within PLC team meetings.

Once teachers were able to begin delving into their current curriculum standards as a PLC, grade-level pacing guides began to take form. The site curriculum coordinator worked with each grade-level ELA PLC to develop a format that worked with them and provided as much guidance as they needed. Once the school year began and universal screenings were completed, teachers met weekly to discuss and understand what the data meant for them and their students. All trainings were provided by the curriculum coordinator during PLC planning times as well as after school sessions. Teachers received training on MTSS problem-solving processes, literacy intervention protocol for Tier 2, as well as available resources. When Tier 2 groups were developed in PLCs with the help of the curriculum coordinator, educators felt they were ready and capable of beginning this process.

While most of the components were implemented with fidelity, stakeholders did note that in order for them to continue to be successful, more intense professional development would be needed. Specifically, professional development opportunities focusing on the development and execution of the intervention groups were identified as a need since funding no longer supports a separate interventionist to support this step.

Research Question Component 6: How can implementation of team communication and collaboration be described?

Finally, team communication and collaboration were examined, specifically through PLCs. This research question sought to understand how teams worked together to identify research-based core instructional materials as well as intervention materials. The communication component also included the engagement of family and community involvement in the MTSS process. PLC notes, district resources, focus group discussions, and administration interviews together helped me to understand the importance of communication and collaboration in the implementation of MTSS.

An effective communication system is essential for the successful implementation of any new initiative. For the effective implementation of MTSS, a common vision and routine for consistent communication must be in place (Sugai & Horner, 2009). Educational leaders in the school district and the school site developed team structures with specific responsibilities in mind. Teams were composed of a group of stakeholders representing administrators, teachers, support staff, and any other educators who could provide a fresh perspective and expertise. At both the district and school level, plans were developed to establish effective communication among and between these problem-solving teams. According to the district MTSS communication plan, the following guidelines were put into place:

- District MTSS leadership team met every month to discuss monthly updates and provide support to individual school-based teams.
- Problem-solving school system teams made up of administrators, curriculum specialists, school psychologists, counselors, and EC teachers met every

month to discuss monthly support information provided by district updates and to respond to concerns and questions from the PLC and SIT meetings.

- Grade-level PLC meetings occurred weekly or bi-weekly to focus on instructional planning and needs with 1 day per month devoted to curriculum support. The monthly problem-solving was devoted to core academic data, core and supplemental behavior data, and intensive academic data.
- SIT met monthly to discuss implementation of action steps and to discuss successes, obstacles, and next steps.

Through the problem-solving process, all stakeholders worked together in student-focused conversations to proactively support student needs across many areas of concern including academics, attendance, and behavior.

Along with the teaming structure, another component that is essential for MTSS to be successful is consensus building. At the onset of implementation, administrators held an open and honest discussion with staff about the current condition of students at the school site. Scores for a decade had dropped at an alarming rate, and administration felt it was critical for staff to understand what they were facing. With the possibility of a school takeover looming ahead, teachers wanted a change too. When MTSS was presented to the staff, it was not presented by administration; it was presented by the curriculum specialist who not only had experience in the classroom but also held a great deal of respect within the district. In talking with the focus group teachers, they explained that for many, mindset shifts were necessary for buy-in. They described how conversations around equity and building relationships along with sharing responsibility for every student helped educators to see that they were in this together, and they were

there to support each other.

Educators in the study also discussed how the consistency of communication and the amount of information could be quite overwhelming. Quick access to student data and understanding of that data were very important to them. One participant said that progress monitoring scores meant nothing to her if she could not see the big picture and know what to do next in the process. She also noted,

We have an excellent administrator that comes to each of our PLC meetings and does a great job explaining what the data means. Our curriculum specialist offers a plethora of resources for us to use not only in the core curriculum but also in intervention groups as well. Sitting down and being able to ask them questions and get real-world answers has helped us a lot.

One of the key themes I heard consistently was that the process of implementing MTSS caused the teachers to talk. They discussed and planned everything together. Where in the past, many teachers planned in their rooms with closed doors, this forced them to share resources and ideas. While it may not have been comfortable for all in the beginning, one of the seventh-grade teachers had this to say:

We plan everything together; we do everything together. Consistency is important to us. We have not always done it this way but we saw the value of collaboration and the sharing of resources. When we pull together, we can find more resources and ideas to bring to the table. After all, the more we have the more we have to choose from. We do the same things but in our own way. We teach the exact same lessons but can put our own flare in it. We share everything and it has helped us to prepare new teachers. We can keep up with the standards that we have taught and

are able to spiral and differentiate with our higher and lower learners.

Throughout the research, it was revealed that in order for a successful implementation to take place, teams must have a shared vision and a shared understanding of the process. Those involved in MTSS collaboration must have a framework from which to communicate. They must build purposeful relationships and be willing to be fully transparent with not only their data but with their students' data. Collaboration requires an alignment of roles and responsibilities in order to coordinate the efficient use of ideas and information.

Summary

In this chapter, I provided a summary of my research findings by answering my six research subgroup questions. I examined the perceptions of stakeholders at the school site where the research took place and summarized the process of MTSS implementation and its challenges they experienced. Stakeholders across the levels of implementation expressed a positive response to MTSS and perceived it as a useful framework for school improvement. Participants discussed the need for strong leadership, understanding of data collection, clear and open communication, problem-solving conversations, and stakeholder buy-in. Administrators and teachers alike shared advice for effective implementation practices and recommended a strategically planned implementation process that allows for educational problem-solving with a whole-child approach.

I connected the findings of this study to the North Carolina MTSS six critical components. These components outline the essential elements that are necessary for the effective implementation of MTSS. These were the components that contributed to the framework through which I analyzed my findings: (a) three-tiered instructional

framework, (b) data-based problem-solving, (c) data evaluation, (d) leadership, (e) capacity building infrastructure, and (f) communication and collaboration.

My analysis of these research findings indicated that implementation at this particular school site aligned well with the guidelines of implementation addressed in the North Carolina MTSS six critical components (NCDPI, 2019a). Chapter 5 presents a discussion of this study's findings as they relate to implications for future practice.

Chapter 5: Discussion

Introduction

The purpose of this case study was to describe the experiences and actions of sixth- and seventh-grade teams of ELA teachers who have shown success in student achievement growth since implementing MTSS for literacy intervention. Through a series of focus groups with teachers and interviews with administration as well as a document analysis of MTSS protocols, multiple stakeholders provided detailed summaries of their experiences through the MTSS implementation process. They shared their unique stories and explained how they introduced and are sustaining MTSS at their school site. Moreover, those stakeholders communicated how the implementation process affected educators, students, and the school climate as a whole.

Through my research, I sought to understand how implementation happened on these teams in order to inform ELA instruction across other grade levels at the site and provide information for other sites in the district through a case study of successful implementation. The focus was on the implementation of MTSS for a group of sixth- and seventh-grade teachers trying to change how secondary students are receiving reading instruction and interventions at the middle school level. This case study considered the six different components of MTSS and analyzed the process and function of implementation. It explored the implementation of each of the MTSS components and their collective effort to boost fluency as well as reading comprehension performance of sixth- and seventh-grade students who scored below level on quarterly benchmark testing as well as EOG testing and were served in Tier 2 intervention groups throughout the year. The focus for this study targeted the sixth- and seventh-grade teams because their EOG

proficiency scores within 2 years carried the school proficiency for ELA from a level D to a B. Their work towards the improvement of not only their core curriculum through collaboration and data analysis but also their ability to target and intervene for individual students has shown how successful implementation of MTSS can impact the entire student body. The close analysis of their practices in this study provides better understanding of the process of MTSS and how it can be successful if implemented properly.

Procedures

Qualitative data for this study were collected through focus groups with sixth- and seventh-grade ELA teachers and interventionists, interviews with administration and the curriculum specialist, and a review of relevant documents of training protocols and guidelines. Through open-ended questions, I used the focus groups and interviews to collect responses regarding the implementation process at the school site as well as stakeholder impressions and understanding. During each interview and focus group, notes were taken and an audio recording was used to record verbal responses. The interview and focus group questions (see Appendix) focused on implementation through the lens of the North Carolina MTSS six critical components: (a) three-tiered instructional framework, (b) data-based problem-solving, (c) data evaluation, (d) leadership, (e) capacity building infrastructure, and (f) communication and collaboration.

With the themes already in place based on the six MTSS components, data were organized into these particular themes through a qualitative analysis software, Quirkos. The overall research question guiding this case study was, “How can implementation of an MTSS program with ELA students in sixth and seventh grades be described?” This

comprehensive question was broken down into six components aligned to the six components comprising MTSS, specifically,

1. How can implementation of multiple tiers of instruction and intervention be described?
2. How can implementation of the problem-solving process be described?
3. How can implementation of data evaluation be described?
4. How can leadership of MTSS at the site be described?
5. How can capacity-building infrastructure at the school site be described?
6. How can implementation of team communication and collaboration be described?

Through interviews, focus groups, and document analysis, I was able to create an overview of the implementation of MTSS in one public middle school in North Carolina. This chapter presents a summary of the study and examines the findings in the context of the MTSS theoretical framework and the literature on MTSS implementation.

Findings and Implications

The case study findings revealed that the school district and site-based leaders utilized many of the implementation strategies put forth in the theoretical framework and MTSS literature. Educational leaders framed the school's vision so that it intertwined with the district's vision of an MTSS framework. The district's MTSS handbook and problem-solving manual provided a thorough explanation of the vision, MTSS fundamentals, and procedures necessary for successful implementation. Professional development was provided before and during implementation through initial training, ongoing coaching, problem-solving and data-evaluation trainings, and literacy best

practices. Specific procedures and protocols were in place to ensure implementation fidelity. Site administrators were knowledgeable about not only the framework of MTSS but also the workings of the daily implementation. They utilized leadership skills to build the site infrastructure to ensure that consensus and the unique needs of their students and staff were considered.

My research provides evidence of a secondary school site that is making compelling efforts toward school improvement through the implementation of MTSS. Based on experiences shared by the stakeholders involved in this study, the stakeholders recognized that MTSS is a way to proactively meet the specific academic and behavioral needs of each student across the curriculum. MTSS empowers educators to examine not only their own practices but also the varied needs and abilities of each student they teach. It offers a different perspective to the dated learner deficiency idea and encourages educators to carefully consider their own instructional practices, the curriculum, and the environment of the classroom. During the course of this case study, several practices were observed and discussed that could potentially improve a school's MTSS implementation. I discuss my findings and make recommendations based on each of the six MTSS critical components. In the following sections, I highlight each of the critical components and discuss themes that emerged from meetings with stakeholders across the school site.

Research Question Component 1: How Can Implementation of Multiple Tiers of Instruction and Intervention Be Described?

One key practice that seemed to take a forefront of the study was the focus on core curriculum. The focus of Tier 1 core curriculum is to optimize learning and prevent

problems as soon as possible (McIntosh & Goodman, 2016). A solid research-based core curriculum can reduce the number of students requiring additional services. According to the Office of Elementary and Secondary Education and USDE (2002) in their scientifically based research and the comprehensive reform program, a core program should be comprised of research-based instructional practices that are culturally responsive. This research-based instruction specifically refers to instruction acquired by the results of scientific studies, also referred to as evidence-based instruction (USDE, 2002). Providing high-quality reading instruction can make a big difference for struggling readers. This instruction is designed to meet the specific needs of each student rather than simply teaching the same way for all (Denton, n.d.). Universal literacy practices should be established, and educators should use differentiated learning activities at this level of instruction (Mesmer & Mesmer, 2008). Student service teams should look at core curriculum through three areas: instruction, curriculum, and environment, often referred to as I.C.E. (NCDPI, 2019b). Through the I.C.E. model, instructional practices should be aligned with student needs and available resources. Curriculum is defined as the evidence-based materials and instructional programs that are delivered to all students. Finally, environment includes the functionality of the school setting as well as behavioral expectations and agreed upon expectations as specified by the I.C.E. model; a data-evaluation plan should be in place to measure not only student success but also the level of implementation (North Carolina MTSS Implementation Guide LiveBinder, 2021). My research substantiates the importance of a solid core curriculum. Each of the teams in the study meticulously analyzed their own teaching practices individually and cohesively and adjusted their practices to ensure higher student success. They were willing to work

together to realign their curriculum and research ways to create a scope and sequence that would allow for the presentation of all standards as well as constant review through a spiral approach. Educators put aside what they had always done and were willing to make adjustments and look at the curriculum from a different lens. Through this, stakeholders saw that building their instruction based on their students' needs was more effective than simply teaching to their own needs.

While stakeholders in this study saw the benefits of small group instruction on student outcomes, they did note that they strongly felt their success came more through the implementation process than the implementation outcomes. Through the implementation process, stakeholders, in particular ELA teachers and the curriculum coordinator, were able to take a step back and analyze their own teaching practices. They were able to use the data to get a fresh look at what was working and what was not. It allowed them to realign their goals for their students with the student's goals for success. One senior teacher had this to say about the process:

People say that you can't teach an old dog new tricks, I don't believe that.

Educators are always learning but sometimes we get in a rut. Implementing MTSS forced me to learn something new, it made me realize that my kids deserve better. So, I readjusted myself. That's what educators do.

Every single teacher felt that their core instruction delivery had improved drastically because they took the time to really understand what they were teaching and why they were teaching it.

Not only are evidence-based interventions spotlighted in MTSS, so is the importance of quality core instruction. As noted in Chapter 4, stakeholders at the school

site strongly believed that their success with MTSS and student growth was due not only to the implementation of intervention groups but also to the restructuring of their Tier 1 core curriculum.

Research Question Component 2: How Can Implementation of the Problem-Solving Process Be Described?

The problem-solving component includes the use of student outcome data across grade levels, content areas, and tiers to address deficits in learning and instruction. The four-step problem-solving approach that is used in many MTSS models includes (a) defining goals to be attained, (b) identifying potential reasons why the goals are not being met, (c) developing a plan for implementing strategies to attain goals, and (c) evaluating the plan's effectiveness. These data-based problem-solving decisions are made as a team to ensure student needs are addressed (NCDPI, 2019b). Within this process, the problem to be addressed can be seen as a discrepancy between the observed performance and the expected performance. All factors that can impact a student's learning are considered through the analysis of the performance data.

The implementation of MTSS strongly depends upon data as its foundation for decision-making and implementation (McIntosh & Goodman, 2016). Schools use data within an MTSS model to assess the current needs, identify children in need of supports, and determine the most appropriate interventions to match specific student needs. Although the participants in this study understand the importance of data collection and problem-solving, it was expressed by several that this shift toward data-based problem-solving to address core instruction was challenging. Many educators felt anxiety when presented with classroom or student data due to discomfort with group-wide data

interpretation. When data showed below-proficiency level performance, some even felt fearful that it would reflect poorly on their own teaching practices. It is important that stakeholders feel free to discuss their successes and failures in a supportive and encouraging environment. The teaming structure as well as administrative support can play an important role in this.

The primary education document offered by the district to provide direction on the MTSS implementation process was their MTSS district handbook. Within this online document, district leaders provided access to all MTSS resources including training documents, assessments, blueprints for implementation, Tier 1 and 2 resources, intervention spreadsheet templates, and best practices in literacy. During my review of the documentation and resources, I identified information that was also mentioned during the interviews and focus groups. Certain aspects of the handbook proved to be quite useful for teachers and became a focus of some discussion. Templates were designed as a guideline for common assessment data analysis and core problem-solving sessions. These documents were designed to drive purposeful and productive discussions regarding students and instruction. They listed topics to consider and address for not only core curriculum but also for intervention materials. Teachers in the study repeatedly discussed how much easier the implementation went because of the streamlined approach set forth by the district. Also provided in the handbook were literacy guides that could be used to guide intervention and instruction decisions based on the grade level and assessment tool used. This handbook proved to be an invaluable tool for not only educators but also for administration. Having streamlined implementation protocols with easy-to-use guides and assessment tools is essential for the successful implementation of MTSS. A

recommendation for future implementation by the district may be to provide more online training via modules or videos. The information in the handbook and online tools were quite extensive and may be a bit overwhelming for some. The district could possibly consider dividing the information into elementary and secondary groupings and provide a guide as to which trainings should be accessed and in which order. This may offer a more streamlined but understandable approach to the information offered.

Research Question Component 3: How Can Implementation of Data Evaluation Be Described?

Data-based decision-making is the foundation of an MTSS model. Valid sources of screening and progress monitoring data should be utilized to inform the development and instruction of core curriculum and academic interventions. Through proper data evaluation, examiners look at the rate of learning over a period of time and design an instruction model to meet individual student needs. Schools must use data to drive their core instructional planning, but data also drive the MTSS process as well as monitor its fidelity. Schools must create a plan, monitor it, and assess its outcomes. Using an MTSS approach, data must be systematically collected and analyzed frequently to determine both the effectiveness of core instructional practices and to identify students who need supplemental or intensive supports (Sugai & Horner, 2019).

It is important to note that data evaluation does not speak solely of the assessment data for student placement and analysis. Assessments also drive the planning and activation of any school improvement plan. The school site in this study used NC Star to guide school improvement efforts through the SIT. The tracking of end-of-year academic data profiles and the grade transition documentation information is essential in

determining student needs for the next academic school year, including staffing, student grouping, and other necessary resources and materials. The MTSS leadership team is supposed to drive the school improvement process with results from the yearly self-assessment of MTSS implementation. At the end of each school year, schools complete the self-assessment of MTSS implementation to review 39 descriptors within the six critical components of MTSS implementation. The self-assessment of MTSS implementation result summaries coupled with school data sources can then be used to determine goals for school improvement in the areas of leadership, academics, and behavior. At the time of this study, there were no systems in place at this school site for this type of MTSS review at the year's end. While they did analyze data for the purpose of understanding strengths and weaknesses of the core curriculum, progress monitoring for student placement and grouping, and results from the school improvement plan, specific analysis of MTSS was not a part of the process. This step in the MTSS implementation process is critical. While academic and behavioral needs were discussed, the focus group and interview sessions provided evidence that schools are just beginning to understand the importance of the evaluation of school progress as well as student progress. In order for implementation of any school improvement initiative to take root and be successful over a long period of time, assessments of implementation fidelity need to be in place.

Research Question Component 4: How Can Leadership of MTSS at the Site Be Described?

Supported by O'Conner and Freeman (2012), another factor that should be of high priority during implementation is creating a school culture where every educator

believes that all students can be successful with the right kind of support. In order to facilitate the implementation of MTSS where consensus and buy-in are essential, leadership must play an integral role. Appropriate preparation for implementation requires that state, district, and school leaders communicate the mission and vision for the work, establish structures to support the initiative, and promote stakeholder consensus and buy-in Sugai & Horner, (2019).

Research shows that leadership is essential in creating the school culture by communicating the mission and vision to the stakeholders and providing resources and guidance necessary for a successful implementation (Choi et al., 2019). Creating a culture where students have constant support from educators and teachers never stop trying to meet the needs and challenges of students on a daily basis is the key to student success. As stated by one administrator in the study,

One philosophy we have at our school is that we do not give up on our kids! Our mission statement says that we will provide for every student a positive school climate to achieve academic and social success. We take that seriously. We have built a culture of high expectations for our students. If we hold them to the highest of standards, they will rise to them. While it may have taken some staff a while to get on board, I feel like we have created an environment where our kids know that they are wanted and we want them to succeed every step of the way.

The commitment of leadership and the establishment of implementation teams are critical to the sustainability of any new practice (McIntosh & Goodman, 2016). Effective leadership must be in the forefront of any school improvement reform in order to build a collaborative school culture. All school personnel, including support staff and

administration, should be provided opportunities to learn and understand the MTSS framework in order to properly align resources and improve outcomes for all students. When the whole staff is on board, students receive the maximum amount of support possible.

A common thread that seemed to weave throughout the study was the importance of a dedicated MTSS site coordinator. This school attributed a great deal of their success in implementation to the hard work of the curriculum coordinator in their training and access to the documentation and resources necessary. A recommendation for the school district would be to provide such resources to any school attempting to implement MTSS. Having a site-based administrator who was trained in the implementation process and willing to go the extra mile to ensure her staff felt comfortable in their roles, made an impact on teacher confidence in providing the right interventions to students.

Research Question Component 5: How Can Capacity-Building Infrastructure at the School Site Be Described?

MTSS was designed as a school improvement framework to provide levels of instruction and interventions that are aligned with the needs of the students. In order for MTSS to be implemented and sustained, school leaders and districts must create structures and systems to ensure its longevity. This capacity and infrastructure require consideration of professional development and coaching supports as well as opportunities for collaboration and ongoing problem-solving (McIntosh & Goodman, 2016). Schools must use data to guide instructional planning and ensure the fidelity of implementation. In order to ensure effective implementation, schools must create a plan, constantly monitor that plan, and adjust where necessary. Preserving the integrity of MTSS

implementation requires that schools use data to constantly analyze and improve practices in order to guide instruction in the best interest of the students. In their research on system renewal, Levin and Fullan (2008) noted that sustained school improvement requires a sustained effort to change the teaching practices and the learning practices by focusing on all parts of the educational system.

In my research, I found that through district- and school-based professional development and coaching, staff at the school site were provided with information to promote the understanding of the six critical components of MTSS. Literacy teachers were also provided with training of quality core instructional practices. District leaders provided training through multiple formats including face-to-face sessions, online modules, and individual and group coaching. The school district prioritized the development of a leadership team and training materials to build the infrastructure necessary for an MTSS implementation across the district. Creating cohesive teams across and within grade levels was difficult in many ways, such as scheduling issues and personality conflicts. However, participants in the study relayed that communication had continued to improve over time as they began to better understand the implications and importance of their discussions.

While most of the stakeholders felt comfortable with the implementation process, they did note that in order for them to continue to be successful, more intense professional development would be needed. Specifically, professional development focusing on the development and execution of the intervention groups was identified as funding no longer supports a separate reading interventionist. In order for a multitier model of instruction to be effective, educators need to have training in evidence-based

interventions and access to necessary intervention resources. Educators noted the lack of these resources was beginning to create a barrier to their remediation efforts. Teachers must have a sound understanding of their instructional curriculum being implemented. Ongoing professional development in evidence-based curriculum is essential for building capacity and sustaining fidelity of the implementation. It is critical for educators to not only have a full understanding of their curriculum, but they also must have access to the instructional materials they need to offer the frequency and intensity of additional tiers students may require. While stakeholders in this study felt as if they were being successful in their efforts to strengthen their core curriculum, they were not as comfortable with providing small group interventions. Many of the literacy teachers at this school site were senior teachers and were trained only in secondary school instructional practices. Due to funding cuts, intervention teachers are not always an option for small, tiered group instruction. With these recent changes, stakeholders noted that they were beginning to teach these intervention groups solely within the classroom. Many noted, however, that they were not specifically trained on how to run small groups effectively in their classrooms. They wanted to continue with small group instruction but expressed the need to understand the best practices of how to make them work in a larger classroom setting.

It is recommended that administration seek specific professional development opportunities for staff that includes strategies for managing small group instruction. This training should include how groups should be organized, how to create meaningful independent assignments for students not actively engaged with the teacher, as well as small group class management. Teachers also noted that the resources available for small

group interventions were often confusing and not easily manageable. School and district leaders should research and determine the most effective evidence-based intervention materials they have access to and train all staff, not just literacy teachers, so they feel comfortable presenting this instruction to their students. Study participants felt strongly about the importance of professional development. They believed that ongoing training about evidence-based instruction and the components of MTSS would enable them to sustain a tiered model of instruction in the future.

Research Question Component 6: How Can Implementation of Team Communication and Collaboration Be Described?

Effective communication and collaboration systems are essential for the successful implementation of MTSS (NCDPI, 2019b). In alignment with this expectation, this school site developed teaming structures with specific roles and responsibilities in mind. Administration scheduled protected time for teams to meet and discuss assessment findings as well as to receive additional supports and coaching as needed throughout the school year. Teams were composed of grade-level teachers, administration, curriculum support staff, and intervention teachers. The teachers who participated in the focus groups expressed the value of the site-based MTSS curriculum coordinator as a liaison between teachers and administration as well as the district. They explained how the MTSS coordinator sorted through all of the training information and data from the district and state. She broke it down and provided the information in smaller more manageable chunks so as not to overwhelm the stakeholders. She was an integral part of the implementation process because she had worked at the school site for multiple years prior to MTSS. She knew where the strengths and weaknesses were, she had a good rapport

with all staff, and she was highly respected in her position. Having a site-based MTSS coordinator allowed trainings to be more practical and focused for their specific school environment.

Collaboration through PLC groups also provided teachers with the opportunity to not only analyze their own data but also to discuss the school's data as a whole. Consistent with McIntosh and Goodman (2016), the sharing of information regarding successful implementation outcomes may motivate continued implementation and sustainability. Authentic collaboration is essential for accomplishing specific team goals. Playing on the strengths of both new and veteran teachers can build a base of knowledge that enables teachers to grow and own their instruction. When teachers can learn from each other and share with each other their successes, failures, and information about effective practices, student progress is the outcome.

Limitations

The small sample size of this study limits the generalizability of the study's findings to the broader community. A total of 11 stakeholders participated in the interview and focus group sessions. The participants represented school-based educators including administrators, the MTSS curriculum coordinator, teachers, and interventionists from one particular school site. I expected there to be a range of perceptions across the grade levels. I also expected differences between teacher and administrative perspectives with varying roles and responsibilities; however, the stakeholders revealed very similar experiences and views through their discussions. This could be due to the number of years this staff has worked together and the low turnover rate of teachers at this school site.

Due to the COVID-19 pandemic, some limitations included the ability to speak to several of the classroom teachers face to face. In one situation, we were able to include one of the participants via Zoom so they were able to all participate in the same focus group. The site curriculum coordinator participated in her separate interview by Zoom as well. While it did not alter the outcomes of the study, measures were taken to include all participants in the most convenient way possible.

This study targeted stakeholder perceptions and experiences solely. It is not intended to determine the effectiveness of MTSS implementation at the school site. To evaluate effectiveness, researchers could examine the outcome data and its fidelity compared to other schools in the district.

Recommendations for Future Research

This study offered a snapshot of the MTSS implementation at one secondary school in North Carolina; however, there is still little research on the installation of MTSS at the secondary school level. Further studies related to the implementation process could explore the following:

1. At the time of the study, the school did not have a structure in place to fully monitor the fidelity of all components of MTSS. A more focused study could offer an understanding of fidelity practices and how they impact not only student success but also the sustainability of the program.
2. For schools or districts that have a high percentage of students needing Tier 2 services, a quantitative study could determine if there is a correlation to socioeconomic status or race. This could address more underlying factors of student success for schools that are statistically high for these subgroups.

3. This study focused on one middle school site implementing MTSS for school improvement. A study could be conducted expanding on this group. There are currently four middle schools in the district that are all implementing MTSS. Future researchers might examine the district MTSS implementation as a whole in order to understand common factors in the implementation process that have led to success as well as identify instructional practices and intervention strategies that could be replicated in other school districts.

Summary

In this chapter, I provided an analysis of my research findings through the lens of the six critical components of North Carolina MTSS. I examined the perceptions of the stakeholders at the school site and summarized the successes and challenges they experienced through the process of implementing MTSS. Participants expressed a positive feeling and response to the implementation process, noting an overall improvement in school climate and feelings of overall and individual success. My research demonstrates the value of continuous, well-planned implementation. The work at the school site in my study is not finished; the stakeholders understand that this process is ongoing. Successful outcomes occur in schools where the staff commit to engaging in a certain practice for multiple years. Stakeholders must be willing to evaluate their own practices honestly, share their successes and failures, understand their mistakes, and be willing to adjust when necessary. The research on MTSS implementation is gradually expanding; however, very few studies examine MTSS implementation through the lens of educators directly engaged in the work. This research expands on previous studies of three-tiered models by examining the perspectives of stakeholders implementing MTSS

in a natural context. It provides additional information regarding how educator beliefs, teaming, communication and collaboration structures, data-based problem-solving and decision-making, and leadership can impact the success of MTSS as a school improvement initiative.

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Appendix

Focus Group and Interview Protocol

Introduction

1. The Interviewer will welcome participants to the focus group.
2. Explain the general purpose of the focus groups and why the participants were chosen.
3. Discuss the purpose and the process for the interview.
4. Inform the participants about the presence and the purpose of having the recording equipment.
5. Outline general overview of the ground rules and guidelines, such as being able to skip questions.
6. Address the assurances of confidentiality and privacy.
7. Inform the participants that information discussed will be analyzed, however the participant or school name will not be included.
8. Inform the participants that some direct quotes may be used, however, the participants will be allowed to review these statements before publication and a pseudonym will be used.

Discussion Purpose

The purpose of this study was to describe the case of sixth- and seventh-grade teams of ELA teachers who have successfully implemented MTSS to improve reading outcomes through an exploration of the six critical components of the MTSS framework.

Discussion Guidelines

- Please answer all interview questions directly, however, you may ask me to

explain or repeat a question. If you feel uncomfortable answering a question, you may ask to skip it.

- The Interviewer is here to ask questions, listen to your statements, and answer any questions you may have. If we seem to be spending a lot of time on one question, I may politely interrupt you to ensure that we have enough time to cover all the research topics.
- The Interviewer will keep your identity, participation, and statements private. Please speak openly and honestly and share whatever you feel comfortable with.
- The Interviewer will recording this session to ensure that they do not miss any of your comments.

General Instructions

- When responding to questions that will be asked of you in this interview, please exclude any information that would allow someone to identify you, students, staff, or name of the school.
- Any information that would permit identification will be kept completely confidential.

Interview Questions

Focus Group Items for Teachers and Interventionist

Focus Group Items – Teachers & Interventionist
Three Tiered Instructional/Intervention Model
<ul style="list-style-type: none"> • Describe how Tier 1 (Core) literacy practices identify learning standards. • Explain how intervention groups are determined and managed. • Explain how Tier 2 academic practices address common student needs using assessments and data sources.
Data-Based Problem-Solving
<ul style="list-style-type: none"> • Explain how universal screening and progress monitoring data inform your classroom instruction.

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- Explain how progress-monitoring data is used to determine students considered at-risk.
 - Describe how instructional and intervention plans are developed and implemented.

Data Evaluation

- Explain how universal screening and progress monitoring data inform your classroom instruction.
- In what ways do you feel that MTSS has impacted student success in other content areas?
- Does staff understand and have access to academic data sources that address at-risk students?

Leadership

- What is the leadership team's vision for MTSS?
- How is administration involved in the implementation of MTSS?
- What professional development and coaching to support MTSS implementation is offered?

Building the Capacity/Infrastructure for Implementation

- Tell me about the professional development that you received related to implementation of MTSS.
- Tell me about the types of training that staff has received on the different types of interventions.
- Are you provided with adequate time for training and coaching support? Explain.
- Explain how scheduling at your school site provides for time for multiple Tiers of evidence-based instruction and interventions. Is this time adequate?
- Describe the resources available to support MTSS implementation at your school site.

Communication and Collaboration

- How has MTSS impacted the way your team collaborates through your Professional Learning Communities?
 - Explain how your team collaborates to identify research-based core instructional material as well as intervention materials.
 - How equipped are staff in addressing the needs of diverse learners?
 - Explain how the school engages family and community involvement in the MTSS process.
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Interview Questions for Administration

Interview Items – Administration

Data-Based Problem-Solving

- Describe how instructional and intervention plans are developed and implemented.
 - Explain how universal screening and progress monitoring data inform your strategic school plan.
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- How equipped is your staff in addressing the needs of diverse learners?

Data Evaluation

- In what ways do you feel that MTSS has impacted student success at your school site?
- Does staff understand and have access to academic data sources that address at-risk students?

Leadership

- What is the school's vision for MTSS? How is that vision communicated?
- How are you involved in the implementation of MTSS?

Building the Capacity/Infrastructure for Implementation

- Tell me about any MTSS implementation professional development that you received as an administrator.
- How do you provide adequate time for training and coaching support? Explain.
- Explain how scheduling at your school site provides for time for multiple Tiers of evidence-based instruction and interventions.

Communication and Collaboration

- How do you encourage collaboration through Professional Learning Communities?
- Explain how the school engages family and community involvement in the MTSS process.

Conclusion

Answer any questions and thank the participants for their time.