The Role of the Multi-Tiered Support System in Supporting Students with Learning Disabilities in An Inclusive Environment in Saudi Arabia

Maha Abdullah ALSulaiman, Ph.D.

Department of Teaching and Learning: Special Education
Collage of Education and Human Development
Princess Nourah bint Abdulrahman University

ملخص الدراسة

يُعد نظام الدعم المتعدد المستويات من أهم الممارسات الحديثة التي أثبتت فعاليتها في عدد من الدول التي طبقته. تلزم قوانين هذه الدول النظام التعليمي بتطبيق نظام الدعم المتعدد المستويات لتحقيق الدمج ودعم التعليم الشامل لجميع الطلبة، وبشكل خاص الطلبة من ذوي صعوبات التعلم المحددة. ومن الملاحظ أن هناك ندرة في البحوث حول أهمية نظام الدعم المتعدد المستويات وتطبيقاته في الدول العربية. لذا، هدفت الدراسة الحالية إلى استعراض الأدبيات والتعريف بنظام الدعم المتعدد المستويات وتطبيقاته وأهمية تطبيقه ومكوناته. كما سلطت الدراسة الضوء على أهمية الكشف المبكر والتدخل الأكاديمي والسلوكي ضمن النظام، ودور فريق العمل في تفعيله. وختامًا، قدمت الدراسة رؤى لصانعي القرارات التعليمية والمعلمين لتطبيق فعال لنظام الدعم المتعدد المستويات في مدارس التعليم العام بالمملكة العربية السعودية.

الكلمات المفتاحية: نظام الدعم متعدد المستويات، صعوبات التعلم المحددة، الكشف المبكر، التدخل الأكاديمي والسلوكي، اتخاذ القرارات المبنية على البيانات.

The Role of the Multi-Tiered Support System in Supporting Students with Learning Disabilities in An Inclusive Environment in Saudi Arabia

Maha Abdullah ALSulaiman, Ph.D.
Department of Teaching and Learning: Special Education
Collage of Education and Human Development
Princess Nourah bint Abdulrahman University

Abstract

Multi-Tiered System of Support (MTSS) is among the most significant modern practices that have demonstrated effectiveness in several countries where it has been implemented. These countries' legislations mandate the educational system to adopt MTSS to achieve integration and support inclusive education for all students, particularly those with Specific Learning Disabilities (SLD). However, there is a noticeable scarcity of research on the importance and applications of MTSS in Arab countries. Therefore, the current study aimed to review the literature and define the Multi-Tiered System of Support and its applications, emphasizing its importance, components, and implementation. The study highlighted the significance of early detection, academic, and behavioral intervention within the MTSS framework, as well as the crucial role of the work team in its activation. Finally, the study provided insights for educational policymakers and teachers for the effective implementation of MTSS in general education schools in Saudi Arabia.

Keywords: Multi-Tiered Support System, Specific Learning Disabilities, Early Detection, Academic and Behavioral Intervention, Data-Driven Decision Making.

The Role of the Multi-Tiered Support System in Supporting Students with Learning Disabilities in An Inclusive Environment in Saudi Arabia

Maha Abdullah ALSulaiman, Ph.D.
Department of Teaching and Learning: Special Education
Collage of Education and Human Development
Princess Nourah bint Abdulrahman University

Quality of inclusive education for students with learning disabilities in Saudi Arabia

The Saudi Arabian Ministry of Education began incorporating inclusion practices in 1994. The infrastructure supporting students with disabilities robust, characterized by a comprehensive team of experts, advanced assessment systems, and tailored assistive resources. Demonstrating its educational commitment, the Kingdom allocated 19% of its 2020 budget to this domain, exceeding the OECD's 11% mean. The curriculum is undergoing a modernization process with the impending integration of professional teaching standards and licensing, aligning with Sustainable Development Goal 4's "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all." Furthermore, a recent cultural shift, highlights an increasing Saudi awareness and inclusivity towards those with students with disabilities. This transformation is both catalyzed and bolstered by the Vision 2030 agenda, which articulated that people with disabilities should "receive the education and job opportunities that will ensure their independence and integration as effective members of society," reflecting a commitment to progressive educational policies and practices (United Nations; OECD, 2020; Saudi Vision 2030)

Most importantly, in August 2023, the Saudi Council of Ministers approved the Rights of Persons with Disabilities Act, which addresses the entire needs of people with disabilities in their daily lives and replaces the previous Disability Code. The Act has a clear and solid foundation that promotes independence, inclusion, and empowerment, and it is in line with the United Nations Convention on the Rights of

Persons with Disabilities, which Saudi Arabia ratified in 2008. (Authority of People with Disability, 2023).

It is imperative to acknowledge the ongoing efforts directed towards advocating for and actualizing inclusive education in alignment with the globally recognized principles. However, it is observed that true inclusion of students with disabilities, particularly in terms of school integration and the accountability roles of special education teachers, remains a challenge. In the Saudi context, there is a lack of a universally accepted and consistent definition of inclusive education among specialists in the field, posing a barrier to its effective implementation (Madhesh, 2023).

The evolution of special education in Saudi Arabia between 1987 and 2000 marked significant strides, evidenced by the increase in the number of special education institutions to 54. A critical milestone in this progression was the introduction of services for students with learning disabilities (LD) in public schools, particularly through the establishment of resource rooms, a provision nonexistent before 1990 due to limited recognition and understanding of LD. By the academic year 2006/2007, the presence of resource rooms had expanded to 1,245 regular schools, further supported by 27 evening support centers (Aldabas, 2015; Al-Mousa, 2010; Al-Otaibi & Al-Sartawi, 2009). Marking a noticeable development in the provision of sustainable educational services for students with specific learning disabilities (SLD), the growth of services for students with SLD continued to improve until 2023, and the effort has been in congruence with the principles of inclusion. This period saw the initiation of 2,567 programs catering to both male and female students with learning disabilities (MOE, 2023).

Undoubtedly, recent high school graduates are now competing globally to attain the highest academic degrees that are most demanded in the job market. This emphasizes the imperative of supporting all students throughout general education, including students with learning disabilities. These students' education often involves integrating them

into inclusive schools. The academic year 2022-2023 witnessed 32.6% of students with (SLD) and 67.4% of students with other types of special needs (MOE, 2023). Williams (2022) pointed out that students with specific learning disabilities are among the most prevalent disability categories in the United States. This situation underscores the necessity of fostering educational environments that are both inclusive and adaptable to the diverse needs of students.

Observations indicate that within the public school systems, the Ministry of Education exhibits a predilection for employing the Medical Model of Disability in the identification process, as opposed to the Social Model. The Medical Model primarily emphasizes the clinical aspects and deficits associated with disabilities. This approach contrasts with the Social Model, which advocates for a more inclusive setting by focusing on societal barriers and the facilitation of environments that accommodate diverse learning needs. The preferential use of the Medical Model over the Social Model in educational settings potentially hinders the authentic realization of inclusive education, as it often fails to address the broader social and environmental factors essential for fostering a truly inclusive atmosphere.

Al Otaiba, Wagner, and Miller (2014) observed that the United States' adherence to a "wait-to-fail" approach may have been a contributing factor to the excessive identification and diagnosis of specific learning disabilities (SLDs) in students (p. 129). Reschly (2005) critiqued the discrepancy model as 'unstable and invalid' (p. 513), highlighting its failure to distinctly differentiate SLD from low achievement and urging practitioners to abandon the processing deficits concept in SLD identification. This model has been problematic in terms of specificity, early detection, and local implementation.

Additionally, these identification techniques have faced criticism for frequent misidentification or under-identification of students, attributed to their variable application. Addressing these concerns, the U.S. Department of Education Office of Special

Education Programs convened the Learning Disabilities Summit in August 2001. A pivotal recommendation from this summit was a critique of the IQ-Achievement Discrepancy model, often termed the 'wait to fail' approach (U.S. Department of Education Office of Special Education Programs, 2003).

In response to the issue of hastily labeling students with learning disabilities, revisions were proposed to the Individuals with Disabilities Education Act 2004 (IDEA), aiming to simplify and enhance the accuracy of identifying learning disabilities in children. This initiative sought to reduce the reliance on labeling as a prerequisite for identifying students with learning disabilities, which might have constrained effective educational outcomes for all students. Wise (2020) underscored the necessity for future research to monitor the trends in special education referrals leading to placements in SLD, thereby guiding more effective policy and practice.

The emergence of Multi-Tiered Systems of Support (MTSS) provided a flexible and non-categorical option for students with mild learning disabilities. The inception of MTSS provided a framework for problem-solving by designing several tiers of academic and behavioral interventions aimed at supporting students at risk of failing in one or more academic areas (Thurlow, et al., 2020). In addition to offering a number of interventions, the system reduces reliance on traditional assessment and diagnostic methods, which are time-consuming and might categorize students inaccurately, especially those with learning disabilities and academic delays.

MTSS for inclusion and equity

In the past decade, there has been a growing interest among researchers and educational practitioners, especially teachers of students with learning disabilities. Experts in the field rapidly highlighted the importance of the MTSS in accurately identifying students with learning disabilities and providing an early and appropriate educational intervention. This approach minimizes students' failures and exacerbates academic and behavioral challenges

among students with learning disabilities, ensuring that education is accessible to all students equally. This not only minimizes the "wait-to-fail" phenomenon but also prevents the premature categorization of students with learning disabilities Troisi (2014).

Researchers stressed that rather than placing students in exclusive groups isolated from their peers, MTSS begins with all students together at the first tier of general education. For those students who need more assistance, the second tier of the system provides additional education and intervention but does not isolate them from the activities of their primary first tier. For the few students who require intensive educational support, they are moved to the third tier for additional intervention time. MTSS is a framework for problem-solving that involves comprehensive screening for all students, multiple levels of evidence-based interventions, progress monitoring, and data-driven decision-making to identify students needing educational interventions, including those with learning disabilities (Brown-Chidsey & Bickford, 2016; Sanetti, & Luh, 2019)

MTSS offers educators a framework to enhance the students' engagement and sense of belonging by fostering positive student-teacher relationships. This approach necessitates educators' self-awareness regarding their own biases, cultural backgrounds, and identities, which significantly influence the educational setting. The tiered support system within MTSS encourages an educational milieu where students are motivated to fully express their cultural, linguistic, and sociopolitical identities. Prioritizing equity, schools are transformed into environments that not only acknowledge but also nurture the strengths and capabilities inherent in all students. These settings appreciate and celebrate diversity, equipping students with the necessary competencies to understand and value others. By implementing MTSS with a focus on equity, schools can create a learning atmosphere where students experience a sense of safety, recognition, and inclusion. The multi-tiered system ensures the diverse needs of all students are met, and the supportive infrastructure optimally allocates pedagogical resources, resulting in a flourishing educational environment for students, faculty, and families. An equity-

centered multi-tiered system of support (MTSS) fosters an academic setting where every student, faculty member, and family feels valued, comprehended, and possesses a sense of inclusion. MTSS adopts a preemptive and assets-based approach, reinforcing the resilience and capabilities of the whole academic community to persistently address issues and champion equity-focused strategies and guidelines (SWIFT Education Center, 2020; Jackson, 2021).

Research Problem:

In the schools of the Saudi Ministry of Education, where students with specific learning disabilities (SLD) are identified for special education, the prevalent methods encompass the Aptitude-Achievement Discrepancy model and the analysis of strengths and weaknesses. This approach predominantly concentrates on the deficits and medical facets of disability, frequently neglecting the crucial educational and psychosocial dimensions necessary for a comprehensive understanding of SLD. Such a methodology potentially impacts both the process of identification and the formulation of fitting educational interventions. Literature has underscored the importance of implementing MTSS in inclusive schools. However, implementing the system necessitates informing educational policymakers and teachers about its significance in bolstering inclusive education and effectively preparing for its implementation. Mere inclusion is insufficient to guarantee success for all students. In other words, simply placing all children in the general education classroom will not be successful for every student without the appropriate interventions (Choi et al., 2020). An "inclusion equity" mindset, which gives the MTSS a school-wide framework, is essential to achieve MTSS's purpose (Choi et al., 2020; Merkle, 2023; Sailor et al., 2021). However, O'Connor and Freeman (2012) observed inconsistencies in the application of MTSS across schools. Consequently, the outcomes appeared random and less than anticipated. This variation could be attributed to the lack of clarity in the implementation roadmap for educators and professionals in the field. To ensure that MTSS achieves its intended goal and outcomes that enhance student performance, it became imperative for policymakers and expert educators to chart a roadmap for

implementation, encompassing all MTTS elements. Continuous training is crucial for teachers in both general and special education (Brown-Chidsey & Bickford, 2016).

Thus, there is a pressing need to educate decision-makers in the educational sector, general education teachers, and special education teachers about the MTSS concept, the criteria on which its effectiveness is assessed, and its implementation mechanism in general education schools. It's also essential to address the major challenges that might hinder activating the system (Thurlow, et al., 2020).

In this regard, the Ministry of Education invested significant efforts in structured training for teachers and supervisors in both general and special education according to specific and distinct operational mechanisms. Despite these endeavors, there remains an ongoing and significant need for continuous training of teachers and supervisors on the latest global and practical approaches.

It's worth noting that the researcher participated in the work of the Optimal Investment Committee at the Ministry of Education. Through this committee, the Special Education Diploma (Optimal Investment for Special Education Teachers) was initiated. One of the courses included in the program is the Multi-Tiered System of Support for special education teachers within the Optimal Investment program in general education. However, the researcher observed, during her field and administrative work in special education at the Ministry of Education, a discrepancy between practical applications and theoretical frameworks in classification, prevention, and educational intervention for behavioral and academic support with students with SLD. Moreover, a gap in active collaboration between general education and special education teachers also exists.

Through teaching the course to special education teachers, it was observed that the dire need for intensive and continuous training on the latest practices in the field of special education is not limited only to special education teachers. Primarily, it starts with general education teachers, as they are the foundational pillar for the success of inclusive education and the activation of the Multi-Tiered System of Support.

In light of the researcher's observations and work in the field, the most prominent challenges apparent in special education are the significant discrepancies in educational outcomes among students with learning disabilities. These discrepancies can be attributed to inconsistent and non-uniform field practices among teachers across various departments in the Kingdom. Such variations are among the most acute challenges confronting professionals in the educational field. The responsibility is collaborative and dynamic between general education teachers and special education teachers alike. One of the fundamental challenges facing teachers in this field is the lack of adequate training and preparation provided to specialized supervisors for shared educational roles and practices. Such practices, particularly within MTSS, need to be implemented with high competence and credibility. Effective implementation is impossible without a joint effort among educational professionals, school managers, specialized supervisors, general education teachers, and special education teachers.

The primary issue addressed in this study is the variability and differences in practices when teaching students with learning disabilities. Wise (2020) determined that more professional development was needed for teachers as students moved up the tiers. Therefore, this study aims to present a pragmatic dynamic system by reviewing the operational mechanism of MTSS and its most effective components. The goal is to elevate the performance of all students in general education classrooms in public schools in Saudi Arabia.

Research Questions:

The study aims to answer the following questions:

1. What are the foundational components of the Multi-Tiered System of Support (MTSS)?
2. How can the MTSS team be effectively established to ensure success for all stakeholders?
3. What is the role of screening and progress monitoring in facilitating decision-making within Multi-Tiered Systems of Support (MTSS) frameworks?

4. What are the barriers to implementing the multi-tiered system of support?

The significance of this study is derived from the following:
1. The topic of the Multi-Tiered System of Support is considered a modern practice, and it has been observed that theoretical and applied research is scarce.
2. It addresses the category of students with specific learning disabilities, who constitute 32.6%, which is the most widespread category among students with disabilities.
3. It is essential to research the latest practices in detection and early intervention with these students before classifying them under the category of students with SLD. This is what the Multi-Tiered System of Support includes, which will be addressed in this study.
4. It assists decision-makers in the Ministry of Education and those working in the field of special education on the ground in making appropriate decisions related to MTSS application.

Study Terminology:
Multi-Tiered System of Support (MTSS): It is a well-organized system that allows educators to identify and address the needs of the maximum number of students through Level 1 intervention, which addresses whole-class needs in general education settings. At least 80% of students should meet academic standards at Level 1. If less than 80% of students achieve the educational targets, educators need to investigate potential whole-class problem sources and address them by modifying general instruction. Students who do not meet expectations should receive additional support using Levels 2 or 3, contingent upon the outcomes of the preceding level. MTSS employs flexible and multi-tiered instruction with the goal of continuous improvement. It has been found that MTSS narrows the gaps between performance and standards and enhances test performance. MTSS implementation is timely and essential (Merkle, 2023).

Specific Learning Disabilities:

Specific learning disability is defined as a disorder in one or more of the fundamental psychological processes related to understanding or using spoken or written language. This may result in difficulties with listening, thinking, speaking, reading, writing, spelling, or performing mathematical tasks. Conditions like perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia fall under this category. However, this definition excludes learning challenges primarily due to visual, hearing, or motor disabilities, intellectual disability, emotional disturbance, or environmental, cultural, or economic factors. (Alfonso & Flanagan, 2018)

Research Methodology

The methodology used in this study is the descriptive-analytical approach, as it is suitable for the current study and achieves the objectives it pursues. The descriptive-analytical approach relies on collecting information from a number of sources, and comparing, analyzing, and interpreting that information. Through the use of the descriptive-analytical method, the scientific researcher can analyze the data and reach clear and understandable results. (Abdel Warith, 2011; Loeb et al., 2017; Tayseer, 2023)

Study Results and Discussion

First Question: What are the foundational components of the Multi-Tiered System of Support (MTSS)?

According to Sailor, et al., (2021) The Multi-Tiered System of Support (MTSS) is an educational framework that integrates data and instruction to maximize student achievement and support students' social, emotional, and behavioral needs from a strength-based perspective. This framework provides targeted interventions and support for students facing learning disabilities and behavioral challenges, emphasizing early intervention to help students catch up with their peers. MTSS is grounded in four primary components:

(1) Comprehensive screening and structured screening for early student identification,

(2) Progress monitoring, ongoing progress tracking and data-informed rules for modifying interventions,

(3) A multi-tiered prevention system: a) additional evidence-based interventions delivered by well-trained personnel, (b) a tiered support framework with escalating intensity, (e) fidelity in implementation, and

(4) Data-driven decision-making: protocols for problem-solving in assessment and educational choices. These facets of MTSS bolster prevention, detection, and intervention methods through organized and data-oriented collaborative efforts (Sugai & Horner, 2009; Choi, McCart, Sailor, & Goodman, 2018; Sailor, et al., (2021).

MTSS is increasingly being adopted in schools across the United States and other regions, reflecting a growing demand for educators and administrative trainers to be prepared for implementation. This rising interest is due to the MTSS's capacity to address issues of accessibility, equity, and inclusion in education. Schools implementing MTSS have noted improvements in academic performance, behavior, and inclusivity. At the heart of MTSS is the multi-level prevention system, which consists of three tiers of instructional and intervention intensity. Tier 1 includes high-quality academic, social, emotional, and behavioral programs and support designed to meet the needs of all students. Tier 2 offers targeted small-group academic interventions or behavioral/psychological support using validated programs for at-risk students. Tier 3 interventions are designed to provide targeted and individualized support to students who have not responded to Tier 1 and Tier 2 interventions. These interventions are typically provided by a team of specialists, such as special education teachers, school psychologists, or behavior specialists, and are tailored to meet the specific needs of the students (Multi-Tiered Systems of Support, 2023; Sailor et al., 2021; SWIFT Education Center, 2020).

This framework aims to create a structured system that allows teachers to identify and address the needs of as many students as possible through multi-tiered interventions. The multi-tiered system of support (MTSS) is a comprehensive approach designed to enhance access, equity, and inclusion within education. This system ensures that all students are fully engaged in general educational settings while receiving the specialized and intensive support they might require. This framework evolved from the integration of the Positive Behavioral Interventions and Supports (PBIS) system and the Response to Intervention (RTI). PBIS emphasizes providing behavior-related support and shares a structural framework with MTSS. As students advance through the tiers in both systems, the intensity of support escalates. Concurrently, Social Emotional Learning (SEL) is incorporated as a fundamental element of the core educational approach, focusing on essential skills such as decision-making, self-awareness, and relationship-building. (Park, Chow, & Gracely, 2023).

Positive impacts on student achievement, behavior, and inclusivity occur only when the framework is implemented with precision and consistency, a concept known as fidelity or accuracy (Missall, Artman-Meeker, Roberts, & Ludeman, 2021) The term "fidelity" refers to the degree to which a program's implementation aligns with its original design (Carroll et al., 2007). Although assessing the level of fidelity can be challenging, five key elements of MTSS serve as a roadmap for educators:

1. Research-Supported Methods: Approaches and interventions that are data-backed and proven to effectively enhance student performance.
2. Tiered Student Support: Support for students' academic and behavioral needs is structured in a way that is both proactive and preventive, aiming to benefit all students.
3. Timely and Objective Use of Data: The prompt, unbiased collection, analysis, and response to data.
4. Community and Family Engagement: Additional support that positively influences student success.

5. Strong Leadership and Teamwork: The cornerstone for launching and maintaining MTSS, as well as encouraging continuous improvement among educators (Gibbons et al. 2019; McCart & Miller, 2020).

In conclusion, MTSS is a vital framework for addressing educational accessibility, equity, and inclusion. Its successful implementation requires overcoming various barriers, but the benefits of improved academic performance and inclusive education are significant. This approach underscores the importance of a school culture that believes in the success of all students with appropriate support, which is foundational to MTSS (Merkle, 2023; Multi-Tiered Systems of Support, 2023; Sailor et al., 2021; SWIFT Education Center, 2020).

Second Question: How can the MTSS team be effectively established to ensure success for all stakeholders?

MTSS utilizes adaptable and multi-level teaching methods aimed at ongoing enhancement. Research indicates that MTSS reduces discrepancies between actual performance and expected standards while boosting test results. Implementing MTSS is both urgent and crucial, particularly as educators work to mitigate the educational setbacks caused by the COVID-19 pandemic. Providing socio-emotional and behavioral support is also of paramount importance, considering the challenges children face in navigating and comprehending the intense experiences brought on by a pandemic (Merkle, 2023). For numerous teams, MTSS presents a scenario that introduces unique teamwork challenges. The expanding research on MTSS focuses on factors that could either enhance or impede its effectiveness. Given that MTSS comprises cohesive teams, each with specific local objectives, it would be logical to suggest that research should investigate factors influencing both the effectiveness of the teams and the system as a whole (Asencio & DeChurch, 2017).

Asencio & DeChurch (2017) identified five key attributes of (MTSS):

1. MTSS is made up of at least two fundamental teams, each with distinct objectives and interconnected members.
2. These teams collectively pursue a shared, overarching goal, and bear joint responsibility.
3. The MTSS structure is shaped by its goals, performance requirements, and relevant technologies. The relevant objectives are arranged in a hierarchy, with sub-team goals forming the foundation and overarching multi-team system objectives at the apex.
4. MTSS are more extensive than individual teams, but more contained than the larger organizations they are part of. They may operate within a single organization or extend across several entities.
5. Teams within MTSS maintain some form of connection be it through inputs, processes, or outcomes with at least one other team in the system. This connection is usually intensive, involving significant mutual interactions among the teams.

Overall, MTSS are intricate structures consisting of interconnected teams united by a shared, overarching aim. They exhibit a hierarchical organization and can operate within a single organization or span multiple ones. Within an MTS, the hierarchical structure of goals fosters a sense of common purpose among team members, with each team having its specific objectives and priorities. This internal coherence of activities and goals is typically stronger within individual teams than across different teams, a characteristic that distinctly sets apart teams within the system (Asencio & DeChurch, 2017). When implemented effectively, MTSS advocates data-driven decision-making, encompassing screening of all students, the application of evidence-based interventions across various levels, and continuous monitoring of progress. These practices not only strengthen a school's culture but also significantly boost student performance (Eagle et al., 2015).

Intervention programs within the MTSS framework should enhance teachers' ability to reach a diverse set of students. This is achieved through the use of Tier 1 instructional practices beneficial to all students, or Tier 2 grouping practices that offer intensified opportunities for reinforcement and/ or acceleration. When students require further intensive support, MTSS should allow the creation of a strategically monitored and evaluated plan with the assistance of a team of teachers and specialists, providing a means of communication with the home. In this theoretical frame, MTSS manifests twofold; first, as a set of teaching principles guiding instructional methods for all teachers concerning all students, and second, as a systematic approach to providing additional support for individual students and student groups with similar high needs. (Park, Y., Chow, K., & Gracely, S., 2023)

This suggested theoretical framework aims to tackle the problem by adopting a hopeful series of steps based on recent research in collective efficacy. It integrates a realistic method that values teachers' time, skills, and expertise. The goal of this approach is not only to support students with learning disabilities, but also to boost staff morale, improve trust and communication between teachers and administrators, and emphasize the importance of teamwork and collective action as a standard practice. Given these factors, it would be crucial to address this issue promptly, for the benefit of the students and their families Hollingsworth (2019).

Numerous studies examining MTSS have applied the Implementation Science Model to clarify its implementation stages (exploration, installation, initial implementation, and full implementation). This model is key in promoting evidence-based practices, fidelity, and long-term sustainability (Bohanon et al., 2016; Freeman et al., 2015; Schilling, 2019). While these stages may vary slightly across schools, the initial phase is typically a year dedicated to planning, training, and team-building (Bohanon et al., 2016; Freeman et al., 2015; Mason et al., 2019). During this exploratory phase, schools evaluate their needs and potential solutions (Schilling, 2019).

It is crucial for educational professionals to receive training and acknowledge the importance of this framework for their students (Bohanon et al., 2016; Schilling, 2019). This phase also involves aligning all staff with the school's vision and strategy for the framework (Bohanon et al., 2016; Choi et al., 2020; Dulaney & Hallam, 2013). Achieving consensus on language and integrating it into school/district goals is essential (Choi et al., 2020; Dulaney & Hallam,). Educators are encouraged to create an environment where they believe they can meet the daily needs of every student, fostering the belief that all students can succeed under appropriate conditions (Marlowe, 2021).

During the installation phase, the second stage of MTSS implementation, schools focus on reevaluating and redistributing their resources, which includes personnel adjustments (Bohanon et al., 2016; Freeman et al., 2015; Choi et al., 2020; Schilling, 2019). At this juncture, establishing effective team structures is prioritized to alleviate the workload on individual educators and mitigate risks of burnout (Bohanon et al., 2016; Greene, 2019). Each team member is assigned specific roles and responsibilities that align with the broader school framework, ensuring the efficient functioning of the system (Bohanon et al., 2016). The success of this framework largely depends on the competence and skills of the team, underscoring the importance of a well-prepared staff (Schilling, 2019).

Leadership plays a pivotal role in fostering collaboration and support among staff during this phase and in daily school operations (Freeman et al., 2015; Vekaria, 2017). It is essential for leadership to understand and meet the needs of staff at their current level (Vekaria, 2017). Providing safe spaces for teachers to collectively express their thoughts and communicate their experiences is crucial during the implementation process (Greene, 2019). Such an environment not only facilitates collaboration but also positively influences staff perceptions of MTSS.The concept of shared leadership within the school structure empowers educators, giving them the autonomy to make decisions and

enhancing their support throughout the process (Vekaria, 2017). Additionally, support from district leadership and collaboration at the district level is instrumental in smooth implementation (Dulaney & Hallam, 2013; Freeman et al., 2015).

As the process progresses into its third phase, the need for strong leadership continues to be critical. The staff will require ongoing support to effectively adopt their new roles and responsibilities (Freeman et al., 2015; Schilling, 2019; Vekaria, 2017). Maintaining open and effective communication is essential throughout all stages of implementation. Particularly crucial is communication across the three tiers of support, ensuring these tiers function as dynamic scaffolds rather than fixed placements for students (Freeman et al., 2015). The use of data dashboards is an effective strategy for streamlining communication and organizing school-wide data. This tool allows for more insightful collaboration among colleagues regarding individual student needs (Greene, 2019). Adhering to evidence-based practices remains a cornerstone of the overarching framework (Merkle, 2023).

Full implementation of the system is achieved when over half of the staff are executing it correctly (Freeman et al., 2015; Schilling, 2019). At this stage, ensuring the sustainability of the overarching framework becomes crucial, particularly in the face of potential staff changes (Schilling, 2019). It is important for schools to consistently train new leaders to maintain the stability of the framework, especially when key individuals leave (Bohanon et al., 2016). However, reaching full implementation doesn't mean the work is complete. As the system absorbs new students and staff, it must remain flexible, continuously integrating new research and making programmatic adjustments. This process is an ongoing, yearly cycle (Choi et al., 2020). Some experts view this continuous adaptation and evolution as a distinct phase in itself, often referred to as 'innovation' (Bohanon et al., 2016).

Central to Knowledge and Skills is the critical competency of selecting suitable staff for specific roles and focusing on capacity building (Freeman et al., 2015; Schilling, 2019). Ongoing training and

supervision are key elements that should be maintained across all phases of implementation (Freeman et al., 2015; Mason et al., 2019; Schilling, 2019; Webb & Michalopoulou, 2021). The need for different types of training may vary depending on the type of employees, their stages in the process, and the unique needs of different schools. A commitment to professional development among staff is essential (Schilling, 2019). School and district leaders are tasked with identifying the most beneficial training types for their staff (Mason et al., 2019).

The quality of training and alignment with professional development needs are crucial to ensure effectiveness; training should be straightforward, accessible, and impactful (Mason et al., 2019). Expert-led training enables staff to acquire and apply new skills in relevant contexts, particularly when complemented by immediate feedback (Mason et al., 2019; Schilling, 2019). The context in which training is applied is significant. For example, evidence-based practices vary between elementary and secondary schools due to differences in optimal methodologies (Daye, 2019). Training should be tailored to the specific circumstances of each school to maximize effectiveness. Another key competency factor is the use of performance assessments, including self-assessments, observations, and formal evaluations, to ensure accuracy and the successful application of training (Freeman et al., 2015; Schilling, 2019). These assessments are integral in verifying the precision of training outcomes and their overall success (Merkle, 2023).

Third question: What is the role of screening and progress monitoring in facilitating decision-making within Multi-Tiered Systems of Support (MTSS) frameworks?

In recent times, the Individuals with Disabilities Education Act (IDEA, 2004) has emphasized the crucial role of data-based decision-making in the educational sector. This paradigm shift encourages educators to rely on scientifically grounded curricula, assessments, and

instructional tools, moving away from purely anecdotal evidence or personal opinions (IDEA, 2004). This new emphasis on evidence and data collection has expanded access to a broad spectrum of educational data, including results from various assessments such as formative, summative, state assessments, universal screeners, and progress monitoring tools.

Screening tools. Addressing the specific use of screening tools within the Multi-Tiered System of Support (MTSS), Thurlow, et al., (2020) highlight the nuances in identifying students who may need special education services. Moreover, Verlenden, Naser, & Brown (2021) explained that universal screening in schools can serve as the foundation for comprehensive behavioral health prevention, early identification, and intervention. Standard school-wide screening tools, they note, may not be entirely suitable for students with significant cognitive disabilities, who often score low and are consequently flagged for further assessment. Despite this, there is value in including such students in screening processes. While comprehensive special education evaluations and annual Individualized Education Programs (IEPs) provide detailed insights into the students' current levels, screening offers more recent data and establishes a baseline for growth monitoring. The decision to use these screenings for individual students should be a collaborative effort between general and special educators. Screening, an informal yet best-practice approach, is crucial for continuous instruction and progress monitoring, particularly at the onset of each teaching unit. Under an MTSS framework, teachers assess students' skills, understanding, and prior knowledge before commencing a unit. Based on these assessments, they adapt their teaching strategies, employ flexible grouping, and provide individualized instruction to meet diverse student needs, thereby facilitating engagement with the curriculum and progression toward learning goals. This method exemplifies the application of MTSS in inclusive classroom settings.

Expanding on effective screening practices, Verlenden, Naser, & Brown (2021) point out that it involves more than just teacher and student surveys. Implementing universal screening necessitates careful consideration of multiple factors, including the target group for

screening, timing, the instrument used, costs, consent procedures, and the management of data scoring and storage. Schools must also develop a plan for utilizing screening data to guide intervention and prevention programming. This planning is not just for identifying students in need of additional support but also for enhancing classroom and school practices, supported by teachers and other school stakeholders. Universal screening data plays a pivotal role in guiding MTSS intervention efforts and evaluating various aspects such as school behavioral expectations, discipline practices, teacher capacity for classroom management, and identifying needs for initiatives that support students' social-emotional and behavioral development These applications align with research advocating the appropriate use of universal screening in educational settings (Husky et al., 2011; Levitt & Merrell, 2009)

Progress monitoring. Thurlow, et al.,(2020) explained that progress monitoring is recognized as a fundamental component of MTSS and effective teaching for all students. It involves evaluating student performance against specific grade-level academic standards and their growth in independence within school and classroom routines. Educators must define targeted skills and identify appropriate methods for progress measurement. Implementing systematic, ongoing data collection systems is essential to determine whether a student is making satisfactory progress or if there is a need for instructional adjustment. Moreover, modified unit assessments, tailored to learning targets and employing a Universal Design for Learning (UDL) perspective, provide insights into the students' acquisition of standards-based content knowledge, allowing them to demonstrate their understanding in various ways

Arden and Pentimonti (2017) provided an in-depth exploration of the essential elements of Data-Based Decision Making in Core Classrooms, as follows:

Tier 1 Instruction Core Principles (IDEA, 2004):
1. Focus on delivering instructional sound, critical curriculum to all students within regular education.

2. Incorporate differentiated instruction to ensure all students can access core instruction.
3. Data-based decisions using universal screening and progress monitoring.
4. Universal screening identifies students at risk of academic failure; administered to all students.
5. Data from universal screeners assess the effectiveness of the core curriculum and identify at-risk students.
6. Screening should be conducted multiple times a year (e.g., fall, winter, spring) with accurate implementation.

Progress Monitoring Distinct from Universal Screening:

Used to monitor the student's response to instruction, especially those needing extra support. Arden and Pentimonti (2017)

1. Occurs regularly (monthly recommended) for meaningful results and adjusting instruction.
2. Two-fold purpose: identify students just above/ below the cut score and those needing supplemental instruction.

Effective Data-Based Decision Making:

1. Identify valid, reliable screening and progress monitoring tools.
2. Foster data fluency and a team that can interpret data effectively.
3. Regular team meetings to analyze data and adjust instruction accordingly (Kovaleski & Pedersen, 2008; Fuchs & Young, 2006).

Data-Based Decision-Making in Tier 2 (NCRTI, 2010):

1. For students needing more help despite differentiated core instruction.
2. Provided outside general education, often in smaller groups with increased intensity.

3. The school data team decides on Tier 2 instruction based on screening and progress monitoring data.

Developing Effective Tier 2 Systems (NCII, 2013):

1. The data team reviews school-wide data to check system health and identify students needing Tier 2.
2. Focus on improving core instruction if high numbers of students are not making adequate progress.

Role of Data Teams in Tier 2:

1. Collect and interpret data, outline and initiate decision-making protocols.
2. Interventions are based on graphed progress monitoring data and adjusting instruction as needed.

Progress Monitoring in Tier 2 (Fuchs & Fuchs, 2006; Metcalf, 2013):

1. Bi-weekly progress monitoring for students in Tier 2.
2. Data teams review progress to determine if instruction meets student needs.

Data-Based Decision-Making in Tier 3 (NCII, 2013):

1. For 3-5% of students needing more intensive intervention.
2. Focus on sophisticated intensification practices and instructional adaptation.

Progress Monitoring in Tier 3:

1. Weekly monitoring for Tier 3 intervention.
2. Utilizing assessments appropriate for the student's instructional level.

Diagnostic Assessment and Instructional Adaptations (NCII, 2013; Arden & Pentimonti, 2017):

1. Use informal diagnostic assessments to determine specific skills and instructional levels.
2. Data from assessments inform individualized intervention in Tier 3.

Fourth question: What are the barriers to implementing the multi-tiered system of support?

Challenges in Implementing the Multi-Tiered System of Support (MTSS): Resource Limitations: Teachers often face major barriers in effectively implementing MTSS due to a lack of resources, such as funding and human capital (Dulaney & Hallam, 2013; Mason et al., 2019; Vekaria, 2017). One of the most significant challenges is the constraint of time, as launching an MTSS framework requires comprehensive planning and learning, difficult to accommodate in already busy schedules (Mason et al., 2019; Vekaria, 2017). This issue is further compounded by insufficient staffing and funding to hire additional staff, especially in schools with high staff turnover rates (Mason et al., 2019; Merkle, 2023).

Leadership and Staff Resistance: Inadequate leadership presents another major hurdle for schools implementing MTSS (Freeman et al., 2015; Mason et al., 2019). Without knowledgeable individuals to lead and support the staff, the implementation process can be daunting and intimidating. Additionally, staff resistance to the implementation is common, particularly when the framework appears overly complex and demanding, requiring significant documentation and effort (Mason et al., 2019; Merkle, 2023).

Change Management and Geographic Challenges: The role of change agents in leading MTSS implementation is crucial, especially in schools that require persuasion for change (Mason et al., 2019; Green, 2019). However, relying solely on change agents can be ineffective, particularly if they leave before substantial progress is made. Geographic context also presents additional challenges, particularly for rural schools, which face difficulties in accessing qualified staff and resources due to their isolation and smaller student populations (Shilling, 2019; Merkle, 2023).

The Role of School Culture in MTSS Success: The culture of a school plays a pivotal role in the success of MTSS implementation (Marlow,

2021). A fundamental tenet of MTSS is the belief that every student can succeed with appropriate support. This principle needs to be deeply integrated into interventions, progress tracking, and comprehensive assessment to effect deeper, more intentional changes (Green, 2019). Many educators have noted that witnessing and celebrating achievements in MTSS bolsters their confidence in its mission. Creating a shared vision, building trust, and providing teachers the opportunities to voice their opinions are crucial for cultivating this culture Reducing teacher burnout and promoting teamwork are also key factors in making MTSS sustainable (Green, 2019; Merkle, 2023).

Walker (2020) pointed out the strengths and limitations of the MTSS Framework as follows:

Strengths: The MTSS Framework provides immediate support for struggling students, preventing the widening of skill deficits (Parks, 2011). It utilizes a proactive, data-driven approach to instruction (Allington, 2009), allowing for adaptable changes based on instructional response (Blaine, 2016). The reliance on multiple data forms, including universal screening for all students and progress monitoring for at-risk students, is a key strength (Alfonso & Flanagan, 2018). Additionally, it decreases the likelihood of students being hastily classified as having a disability (Eichorn, 2009; Fuchs & Fuchs, 2006) and aligns with high standards from models like RTI (Collins, 2013).

Limitations: However, there are challenges with the reliability of decisions based on progress monitoring data (Alfonso & Flanagan, 2018). The framework also faces issues with the varying durations of interventions and progress monitoring (VanDerHeyden & Burns, 2010), and its success depends heavily on accurate and faithful intervention implementation (Noell & Gansle, 2006; Dougherty & McKenna, 2013; Kovaleski et al., 2013). Educator challenges, such as inconsistencies due to lack of resources, planning time, and

professional development, affect the fidelity of instructional practices (Maniglia, 2017).

Recommendations.

The recommendations for the effective implementation and sustainability of the Multi-Tiered System of Support (MTSS), as following:

Leadership and Professional Development:

1. Strong Leadership and Ongoing Support: Maintaining strong leadership throughout all phases of MTSS implementation to provide continuous support to staff (Freeman et al., 2015; Schilling, 2019; Vekaria, 2017).
2. Investment in Educator Training: Enhancing training for educators and school leaders in the principles and application of MTSS, with a focus on fidelity in implementation and integration of SEL and PBIS (Choi et al., 2020).
3. Professional Development and Capacity Building: Emphasizing ongoing training and supervision across all implementation phases, tailored to meet the specific needs of different types of employees and schools (Freeman et al., 2015; Mason et al., 2019; Schilling, 2019; Webb & Michalopoulou, 2021).
4. Training for Sustainability: Focusing on training new leaders to ensure the sustainability of MTSS during staff transitions (Bohanon et al., 2016; Schilling, 2019).

Data-Driven Practices and Communication:
1. Advancing Data-Driven Practices: Intensifying efforts in adopting data-driven decision-making, including proactive and unbiased data analysis to tailor interventions effectively (Sugai & Horner, 2009).

2. Utilization of Data Dashboards: Implementing data dashboards to streamline communication and organize school-wide data for more informed decision-making (Greene, 2019).

3. Effective Communication Across Tiers: Prioritizing open and effective communication across the three tiers of support to ensure they function as dynamic scaffolds (Freeman et al., 2015).

Evidence-Based Practices and Continuous Improvement:

1. Embracing Research-Supported Methods: Adopting evidence-based methods and interventions to ensure effective and tailored strategies for improving student outcomes (Sailor et al., 2021).

2. Adherence to Evidence-Based Practices: Consistently adhering to evidence-based practices throughout the MTSS framework (Merkle, 2023).

3. Flexibility and Continuous Improvement: Embracing flexibility and continuous improvement within the MTSS framework, integrating new research and making programmatic adjustments (Choi et al., 2020).

Community and Family Engagement, promoting greater involvement of families and the wider community in MTSS to augment student success and offer a more comprehensive approach to education (McCart & Miller, 2020).

Inclusive School Culture: fostering an Inclusive School Culture Establishing a school culture that recognizes and supports the success potential of every student, anchored in equity and inclusivity, aligning with the foundational principles of MTSS (Merkle, 2023).

Conclusion

In conclusion, this research provides a comprehensive analysis of the Multi-Tiered System of Support (MTSS) in Saudi Arabian public schools, particularly focusing on students with Specific Learning

Disabilities (SLD). It highlights the substantial benefits of MTSS, while also acknowledging the challenges such as varied educational outcomes and inconsistent teaching practices across the Kingdom. These challenges underscore the necessity for uniform methodologies and enhanced educator training. This study is pivotal for understanding early detection and intervention within MTSS and offers valuable insights for educational decision-makers. It addresses a significant gap in both theoretical and applied research in this area, contributing to the advancement of special education in Saudi Arabia. The effective establishment of an MTSS team is critical for ensuring success for all stakeholders. This involves creating a system of adaptable, multi-level teaching methods, ensuring ongoing enhancement and reducing discrepancies in student performance. The research identifies key attributes of effective MTSS teams and underscores the importance of data-driven decision-making, evidence-based interventions, and continuous monitoring of progress. For successful implementation, it is vital to focus on training, capacity building, and the selection of suitable staff for specific roles. The research advocates for ongoing training and supervision across all implementation phases, emphasizing the need for training to be context-specific, accessible, and impactful. Performance assessments play a crucial role in ensuring the precision and success of training outcomes. This comprehensive approach to MTSS implementation is essential for fostering a supportive educational environment that benefits students, educators, and families alike.

References

Abdel Warith, Sumaya. (2011). Educational and Psychological Research "A Guide to Research Design". Cairo: Anglo-Egyptian Library.

Al Otaiba, S., Wagner, R. K., & Miller, B. (2014). "Waiting to fail" redux: Understanding Inadequate Response to Intervention. *Learning Disabilities Quarterly, 37*(3), 129-133.

Al-Mousa, N. (2010). The Experience of the Kingdom of Saudi Arabia in Mainstreaming Students with Special Educational Needs in Public Schools. Riyadh: The Arab Bureau of Education for the Gulf States. http://unesdoc.unesco.org/images/0019/001916/191663e.pdf

Al-Otaibi, B., & Al-Sartawi, Z. A. (2009). Related Services That Are Needed for the Students with Multiple Disabilities and Their Families in Saudi   Arabia. http://www.dr-banderalotaibi.com/new/1.pdf

Aldabas, R. (2015). Special Education in Saudi Arabia: History and Areas for Reform. Creative Education, 2015, 6, 1158-1167. http://www.scirp.org/journal/ce http://dx.doi.org/10.4236/ce.2015.611114

Alfonso, V. C., & Flanagan, D. P. (2018). Essentials of specific learning disability.

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

Arden, S. V., & Pentimonti, J. M. (2017). Data-based decision making in multi-tiered systems of support: Principles, practices, tips, and tools. Perspectives on Language and Literacy,43 (4), 19-23. Retrieved from https://mydigitalpublication.com/publication/?i=445106&article_id=2908 444&vi

Asencio, R., & DeChurch, L. A. (2017). Assessing Collaboration Within and Between Teams. In R. W. Proctor & E. J. Salas (Eds.), Teams in

extreme environments: Adaptive processes for mission success (pp. 47-62). Elsevier.

ations/Dissertations2

Authority of People with Disability (2023). https://apd.gov.sa/en/blog/news-2/council-of-ministers-approves-the-new-rights-of-persons-with-disabilities-act-131, accessed Dec. 5th, 2023.

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

Bohanon, H., Gilman, C., Parker, B., Amell, C., & Sortino, G. (2016). Using school improvement and implementation science to integrate multi-tiered systems of support in Secondary Schools. Australian Journal of Special Education, 40(2), 99–116.
Brown-Chidsey& Bickford, (2016). (MTSS book): https://www.guilford.com/books/Practical-Handbook-of-Multi-Tiered-Systems-of-Support/Brown-Chidsey-Bickford/9781462522484

Carroll, C., Patterson, M., Wood, S., Booth, A., Rick, J., & Balain, S. (2007). A conceptual framework for implementation fidelity. Implementation Science, 2(1), 40

Choi, J. H., McCart, A. B., & Sailor, W. (2020). Achievement of Students with IEPs and Associated Relationships with an Inclusive MTSS Framework. Journal of Special Education, v54 n3 p157-168.

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

Daye, J. (2019). MTSS implementation in high schools: Expert and stakeholder perspectives [Ph.D., University of South Florida].

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

Dulaney, S. K., & Hallam, P. R. (2013). Superintendent perceptions of multi-tiered systems of support (MTSS): Obstacles and opportunities for school system reform. Journal of Disability Policy Studies, 24(2), 16–27.

Eagle, J. W., Dowd-Eagle, S. E., Snyder, A., & Holtzman, E. G. (2015). Implementing a multi-tiered system of support (MTSS): Collaboration between school psychologists and administrators to promote systems-level change. Journal of Educational and Psychological Consultation, 25(2–3), 160–177. doi:10.1080/10474412.2014.929960

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

Freeman, R., Miller, D., & Newcomer, L. (2015). Integration of academic and behavioral MTSS at the district level using implementation science. Learning Disabilities: A Contemporary Journal, 13(1), 59–72.

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

Greene, L. (2019). Educators' perceptions of the process and implementation of a multi-tiered system of supports (MTSS): A case study. [Ph.D., James Madison University].

Hollingsworth, S. M. (2019). Multi-tiered system of supports as collective work: A (re)structuring option for middle schools. Current Issues in Middle Level Education, 24(2), Article 4. https://doi.org/10.20429/cimle.2019.240204

Husky, Sheridan, McGuire, & Olfson (2011). Mental Health Screening and Follow-up Care in Public High Schools. Journal of the American Academy of Child & Adolescent Psychiatry 50(9):881-91

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

Jackson, D. (2021). Leveraging MTSS to Ensure Equitable Outcomes. American Institutes for Research.

Kovaleski, J. F., & Pedersen, J. (2008). Best practices in data analysis teaming. In A. Thomas & J. Grimes (Eds.), Best practices in school psychology V (pp. 115–130).

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

Learning Disabilities Association of America. (2023). LDA Position Papers: What are Learning Disabilities? Learning Disabilities Association of America. Retrieved August 12, 2023, from https://ldaamerica.org/advocacy/lda-position-papers/what-are-learning-disabilities/

Levitt & Merrell (2009). Linking Assessment to Intervention for Internalizing Problems of Children and Adolescents. National Association of School Psychologists, 3 (1).

Loeb, S., Dynarski, S., McFarland, D., Morris, P., Reardon, S., & Reber, S. (2017). Descriptive analysis in education: A guide for researchers. National Center for Education Evaluation and Regional Assistance.

Madhesh, A. (2023). The concept of inclusive education from the point of view of academics specialising in special education at Saudi universities. *Humanities and Social Sciences Communications*, 10(278). https://doi.org/10.1057/s41599-023-01802-y

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

Marlowe, A. B. (2021). Multi-Tiered System of Supports: A Case Study Examining Effective MTSS Implementation at the Middle School Level

[Doctoral dissertation, Gardner-Webb University]. ProQuest Dissertations Publishing. (28643467)

Mason, E. N., Benz, S. A., Lembke, E. S., Burns, M. K., & Powell, S. R. (2019). From professional development to implementation: A district's experience implementing mathematics tiered systems of support. Learning Disabilities Research & Practice, 34(4), 207–214.

McCart, A., & Miller, D. (2020). Leading equity-based MTSS for all students. Sage Publications Inc.

Merkle, Catherine "Cat" (2003). "Portraits of Practice: A Case Study on Elementary Schools Successfully Implementing Multi-Tiered Systems of Support". Honors Theses. Paper 1410.https://digitalcommons.colby.edu/honorstheses/1410

Metcalf, T. (2013). What's your plan? Accurate decision making within a multi-tier system of supports: Critical areas in tier 1. RTI Action Network.

Ministry of Education - Saudi Arabia. (2023). *Ministry of Education*. Retrieved from https://moe.gov.sa/ar/pages/default.aspx

Missall, K., Artman-Meeker, K., Roberts, C., & Ludeman, S. (2021). Implementing Multitiered Systems of Support in Preschool: Begin with Universal Screening. Young Exceptional Children, 24(4), 213-224. https://doi.org/10.1177/1096250620931807

Multi-Tiered Systems of Support. (2023.). Essential Components of MTSS. Retrieved August 12, 2023, from https://mtss4success.org/essential-components

National Center on Intensive Intervention. (2013). Data-based individualization: A framework for intensive intervention. Washington, DC: U.S. Department of Education, Office of Special Education. Retrieved from http://www.intensiveinter-vention.org/sites/default/files/DBI_Framework.pdf

National Center on Response to Intervention. (2010). Essential components of RTI—A closer look at response to intervention. Washington, DC: U.S. Department of Education, Office of Special Education Programs.

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

O'Connor, R. E., & Freeman, J. D. (2012). Response to intervention: An alternative approach to identifying at-risk kindergarten children. Journal of Early Intervention, 34(1), 25-41.

OECD (2020), Education in Saudi Arabia, Reviews of National Policies for Education, OECD Publishing, Paris, https://doi.org/10.1787/76df15a2-en.

Park, Y., Chow, K., & Gracely, S. (2023). Multi-tiered frameworks: Understanding RTI, PBIS, MTSS. Student Behavior Blog. https://studentbehaviorblog.org/multi-tiered-frameworks-understanding-rti-pbis-mtss/

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

Reschly, D. J. (2005). Learning disabilities identification: Primary intervention, secondary intervention, and then what? Journal of Learning Disabilities, 38(6), 510-515. https://doi.org/10.1177/00222194050380060601

Sailor, W., Skrtic, T. M., Cohn, M., & Olmstead, C. (2021). Preparing teacher educators for statewide scale-up of multi-tiered system of support (MTSS). Teacher Education and Special Education, 44(1), 24-41. https://doi.org/10.1177/0888406420938035

Sanetti, L. M. H., & Luh, H. J. (2019). Fidelity of Implementation in the Field of Learning Disabilities. Learning Disability Quarterly, 42 (4), 204-216. https://doi.org/10.1177/0731948719851514

Saudi Vision 2030. (2016). *Saudi Vision 2030*. Retrieved from https://www.vision2030.gov.sa/media/rc0b5oy1/saudi_vision203.pdf

Schilling, J. (2019). Multi-tiered system of support in California rural school settings [Ed.D., San Jose State University].

Sugai, G., & Horner, R. H. (2009). Responsiveness-to-Intervention and School-Wide Positive Behavior Supports: Integration of Multi-Tiered System Approaches. Exceptionality, 17 (4), 223-237. doi: 10.1080/09362830903235375

SWIFT Education Center. (2020, October). Transitioning to a New Future with Equity-based MTSS [Issue Brief #12]. Retrieved from https://www.swiftschools.org/shelf

Tayseer, Mohammed. (2023). The Descriptive Analytical Approach. Cairo: Arab Journal Foundation for Science and Research Publishing.

Thurlow, M. L., Ghere, G., Lazarus, S. S., & Liu, K. K. (2020). MTSS for all: Including students with the most significant cognitive disabilities. Minneapolis, MN: University of Minnesota, National Center on Educational Outcomes/TIES Center.

Troisi, S. (2014). Multi-Tiered System of Supports in Florida: Exploring the Knowledge of Parents Within the MTSS Process [Honors thesis, University of Central Florida]. Burnett Honors College.

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

United Nations. Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. SDGs. Retrieved from https://sdgs.un.org/goals/goal4

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

Vekaria, H. (2017). Interviews provide guidance for MTSS implementation. International Dyslexia Association (Perspectives on Language and Literacy), 37-39.

Verlenden, J., Naser, S., & Brown, J. (2021). Steps in the Implementation of Universal Screening for Behavioral and Emotional Risk to Support Multi-Tiered Systems of Support: Two Case Studies. Journal of Applied School Psychology, 37(1), 69-107. https://doi.org/10.1080/15377903.2020.1780660

Walker, T. (2020). The Impact of the MTSS Framework on Special Education Referral Rates and Eligibility for Specific Learning Disabilities. PhD Thesis. Gardner-Webb University.

Webb, F, & Michalopoulou, L. E. (2021). School psychologists as agents of change: Implementing MTSS in a rural school district. Psychology in the Schools, 58(8), 16421654.

Williams, L. M. (2022). The Specifics of Specific Learning Disability: An Analysis of State-Level Eligibility Criteria and Response to Intervention Practices (Doctoral dissertation, University of South Florida)

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