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MTSS for All: Including Students with the Most Significant Cognitive Disabilities

Multi-Tiered System of Supports (MTSS) is a framework for organizing and providing a tiered instructional continuum to support learning for all students. MTSS has the potential to meet the academic and behavioral needs of all students. Unfortunately, students with the most significant cognitive disabilities often are not included in this framework even though they should be. When a group of students with disabilities is not included in an MTSS framework, the foundational concept of all students being general education students first, with special education services supplementary, is eroded.

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The purpose of this Brief is to provide suggestions for ways in which MTSS can include students with the most significant cognitive disabilities so that MTSS provides a whole school and whole district approach to be implemented by educators. Ideas for how to make MTSS fully inclusive of all students are presented following a short history of MTSS and a summary of current MTSS models.

Brief History

MTSS is defined by the IRIS Center (2019) as:

> A model or approach to instruction that provides increasingly intensive and individualized levels of support for academics (e.g., response to intervention or RTI) and for behavior (e.g., Positive Behavioral Interventions and Supports or PBIS).

The Every Student Succeeds Act (ESSA) refers to MTSS as an approach for increasing student achievement and teacher effectiveness. It states in Section 2103 on local uses of funds that programs and activities may include:

> Developing programs and activities that increase the ability of teachers to effectively teach children with disabilities, including children with significant cognitive disabilities, and English learners, which may include the use of multi-tier systems of support and positive behavioral intervention and supports, so that such children with disabilities and English learners can meet the challenging State academic standards;... (Sec 2103(b)(3)(F))

Further, ESSA provides a definition of "multi-tier system of supports" as:

> A comprehensive continuum of evidence-based, systemic practices to support a rapid response to students' needs, with regular observation to facilitate data based instructional decisionmaking. (Sec 8101(33))

As MTSS was initially conceived, it was a school-wide framework with a focus on general education students who were not identified as qualifying for special education services. The beginnings of MTSS emerged from RtI and problem-solving models that were designed both to provide interventions to students at risk for failure in one or more subject areas, pre-referral information for students who might need special education services (particularly those with learning disabilities), and to determine the interventions that might address their individual needs.

As this concept of a continuum of tiered instruction and interventions has evolved, its value as a framework that is beneficial for all students, including those identified as students with disabilities, has emerged. Even with this evolution, MTSS typically has not explicitly included students with the most significant cognitive disabilities. This omission may be due to the assumption that students with the most significant cognitive disabilities already are identified as needing special education services that are individualized. Of course, this would not preclude them from being included in an MTSS framework.

Despite the lack of application to students with the most significant cognitive disabilities, a number of states indicate that they will use an MTSS framework to reduce the numbers of students participating in the alternate assessment based on alternate academic achievement standards (AA-AAAS). States also are seeking to align inclusive services for students with the most significant cognitive disabilities with MTSS implementation.

Current MTSS Models

The many definitions of multi-tiered systems convey an expanding landscape that goes from an initial emphasis on student needs to a more encompassing emphasis on implementation of educational programs, activities, and teacher development that supports all students, including those with the most significant cognitive disabilities and English learners.[1]

Typically, MTSS frameworks include a three tier triangular model of support in which, according to the National Center on Response to Intervention (2010), the largest area tier is focused on primary prevention, the next smaller area tier focuses on secondary prevention, and the third smallest area tier is focused on tertiary prevention. This conception of MTSS may be slightly different from its use in practice, which reflects more of an instruction/intervention approach in which students who do poorly on screening measures and other frequent checks of performance receive additional intensive levels of interventions. If there are continued concerns after the additional intervention levels, then a referral for a special education evaluation could be considered. Although some misconceive Tier 3 as the "special education" tier, this tier is for any student who needs intensive interventions.

[1]For more information about MTSS and English learners, see Brown and Sanford (2011) and Minnesota Department of Education (2019).

Across all of the definitions, the premise is that the tiers are additive. For example, if a student requires additional interventions (e.g., Tier 2 or Tier 3) for reading, these supports would be "in addition to" receiving Tier 1 instruction and not "in place of" Tier 1 instruction.

In general, two critical elements are embedded in an MTSS framework—a **good screening and ongoing progress monitoring process** for providing timely information on whether students are responding to instructional supports, and use of **evidence-based instructional supports.**

Procedurally, MTSS (like RtI) involves a screening process. Universal screening is conducted at the beginning of the school year (or more often throughout the year) to identify students who score poorly. A second screening is conducted for those students scoring poorly to obtain a more accurate indication of which students are at risk of poor learning outcomes (see National Center on Response to Intervention, 2010) and to begin to identify interventions that may be needed by individual students.

Frequently, the tools that are used for screening and progress monitoring (e.g., Academic Progress Monitoring Tools Chart, see National Center on Intensive Intervention) are not designed for students with the most significant cognitive disabilities, or are focused only on basic academic skills such as number or letter identification, number order, number facts, or checklists of early literacy knowledge and reading readiness (e.g., Ticha & Wallace, 2010). Suggestions that a lower grade level tool be used to monitor progress may be inappropriate because a tool at a lower grade level often does not align with what the student is being taught.

More recently developed computer-adaptive tools are designed for both universal screening and progress monitoring. In these tools, the continuum of standards and skills flow more across grade levels and incorporate higher level comprehension and problem-solving skills. Some students with the most significant cognitive disabilities may be able to participate in these assessments with testing accommodations.

A number of evidence-based practices[2] have shown positive academic gains for students with significant cognitive disabilities, and several of these practices have shown positive academic gains in general education

[2]A distinction can be made between "evidence-based" and "research-based." For our purposes here, we use the term "evidence-based" to include both.

Reconceptualizing MTSS to be Fully Inclusive of All Students

There are several basic premises that should be adopted in order to expand MTSS to be inclusive of all students. These premises serve to reinforce that students receiving special education services are general education students first and that special education services are supplementary services.

- The MTSS framework challenges the belief that increased services is equivalent to more restrictive placements. Consider how districts can provide **a continuum of services** rather than focusing on a continuum of placements for students with disabilities, including those with the most significant cognitive disabilities.
- Ensure that the MTSS framework not only focuses on **general education supports, but also incorporates how special education services are integrated at each tier.** An example is organizing special education instruction in an inclusive environment so general education and special education instruction and supports are aligned. With universally designed and differentiated instruction in general education and specially designed instruction from special education working together, all students can be supported in the MTSS framework.
- Consider how implementing tiered instruction and interventions can **prevent referrals to more restrictive educational placements** for students with the most significant cognitive disabilities. This helps assure that students remain successful in a more inclusive educational placement.
- **Focus on instruction** for all students, not just intervention when needed. This provides for access to the curriculum for all students. For students with the most significant cognitive disabilities, this would mean that Tier 1 includes standards-based instruction focused on priority learning targets. Tier 2 would be additional pre-teaching to build prior knowledge or re-teaching to reinforce the priority learning targets. Tier 3 would be very individualized instruction to focus on skill gaps.
- **Promote collaboration of general and special educators**. This collaboration should occur in each tier of the MTSS framework.

settings (Saunders, Wakeman, Reyes, Thurlow, & Vandercook, 2020). Although the research base is increasing, the importance of aligning instruction to grade-level content standards and alternate achievement standards, and continuously monitoring progress is more important than ever as the field awaits information on additional evidence-based instructional supports.

Implementing MTSS for Students with the Most Significant Cognitive Disabilities

Typically, MTSS has relied on screening tools, progress monitoring, and instructional interventions. Ways to ensure that these are appropriate for students with the most significant cognitive disabilities requires some adjustment in thinking. A goal of any adjustments that are made is to ensure that they support an inclusive approach to educating these students. That means special education cannot be a separate system, but must be an integral part of a whole school framework for MTSS. In fact, a school-wide MTSS framework should include all students regardless of the setting in which they are receiving educational services.

Screening tools. The use of MTSS as part of a system for identifying students who may need special education services is not appropriate for students with the most significant cognitive disabilities. Typical school-wide screening tools will nearly always identify students with the most significant cognitive disabilities as ones who score poorly and thus need to be sent on for further screening. Still, there is value in having a student with a most significant cognitive disability participate in screenings using a school-wide screening tool. Although comprehensive special education evaluation and annual IEPs provide detailed information about students' overall present levels, this additional information may provide more current information as well as a baseline for benchmarking growth. Whether this is the case for an individual student should be determined collaboratively by general and special educators.

Although not as formal, it is appropriate to consider screening to be a best practice for ongoing instruction and progress monitoring that occurs routinely at the start of each new teaching unit. When an MTSS framework is applied to instruction, teachers screen for skills, understanding, and prior knowledge before each unit of instruction. Based on their findings, they differentiate instruction, use flexible grouping, and provide individual instruction to teach to the needs so students can better access the curriculum and make progress toward the learning priorities. This is one way that the MTSS is also applied in an inclusive classroom.

Progress monitoring. It is generally accepted that progress monitoring is a critical aspect of MTSS. It is also a critical aspect of effective teaching for every student. Gathering information on how students are performing in relation to the targeted grade-level academic standards on which they are working, as well as their progress in independence in school and classroom rituals and routines, requires that educators define the specific skills on which the student is working and then identify ways to measure progress on those skills. Implementing ongoing, systematic data collection systems that capture learning in priority areas are central for making decisions about whether a student is making progress and instruction should continue as implemented, versus is not progressing or is regressing and the instructional plan needs to be modified. In addition, modified unit assessments provide data on the standards-based content knowledge gained. These modifications should be focused on the priority learning targets and should apply a Universal Design for Learning (UDL) perspective where students indicate their learning through differentiated means.

Instructional approaches. A critical part of successful implementation of MTSS is the instructional approaches that are used to support progress. Although there is limited literature on evidence-based academic practices for use in general education classrooms for students with the most significant cognitive disabilities, some practices that have been identified (see Saunders, Root, & Jimenez, 2019; Saunders, et al., 2020).

Additional information is available on evidence-based practices for a wider range of settings (e.g., Spooner, Knight, Browder, & Smith, 2012; Spooner, Root, Saunders, & Browder, 2019). **Many of the most-researched approaches are difficult for the general educator to implement in the general education classroom,[3] so a collaborative effort must be made by special educators and general educators to deliver instruction using best practices in the general education classroom.** Approaches that have been used successfully in general education classrooms for students with the most significant cognitive disabilities by general educators and others, and that have been identified as evidence-based practices are shown in Table 1.

[3]The difficulty is possibly due to class size or the perception of limited time to work individually with students.

Approaches that remain to be verified for students with the most significant cognitive disabilities, but which have promise especially for the general education classroom, include technology-aided instruction and graphic organizers. These two strategies often are used to support learning for all students in general education, making their potential more powerful for inclusion of students with the most significant cognitive disabilities. Other approaches still to be tested specifically for students with significant cognitive disabilities in general education classrooms include universal design for learning, use of environmental and natural supports, student directed learning, and small group instruction (Browder & Mims, in press).

MTSS Framework for All Students

To realize an MTSS framework that meets the needs of all students in a school, including those with the most significant cognitive disabilities, the framework has to include aligned general education and special education delivery systems where supplemental special education supports simplify, magnify, and possibly modify what is taught in general education. The intent of this approach is to align as much as possible with a school's MTSS framework for academics so students are progressing in a standards-based curriculum. Concurrently, the intent is to align with a school's MTSS framework for social-emotional and positive behavioral interventions so that students recognize, learn, and benefit from typical school routines. Special education supplementary supports could be gradually reduced as students learn the school-wide and classroom rituals and routines. Together, these offer a cohesive and sustainable means for organizing and implementing an inclusive education system for all students.

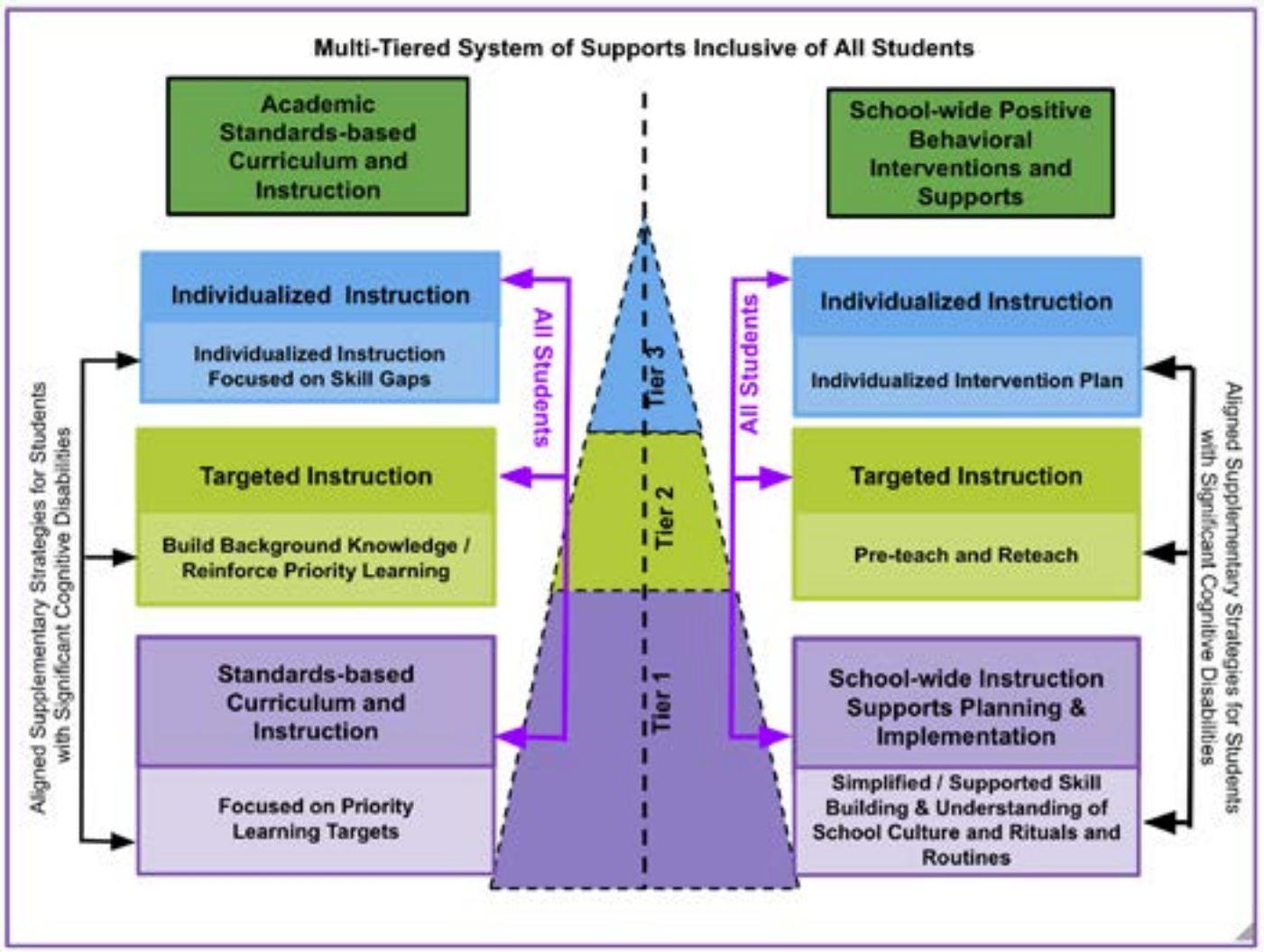
The MTSS framework clarifies how supplemental service supports are integrated and organized with school-wide tiers of support. Figure 1 illustrates one way to align MTSS for academics and behavior/social emotional supports that recognizes the tiers of support for all students, as well as the aligned supplemental strategies inclusive of students with the most significant cognitive disabilities and other students in a school. The figure includes a tiered framework for a standards-based general education academic curriculum (the column immediately to the left of the triangle) and for behavioral and social emotional growth (the column immediately to the right of the triangle).

Table 1. Instructional Approaches Tested in the General Education Classroom

Instructional Intervention	Description
Embedded trial instruction (Evidence-based)	Instructional trials distributed across ongoing routines and activities within the general education classroom.
Constant time delay (Evidence-based)	A form of errorless learning that is most commonly used with discrete responses (e.g., number identification, vocabulary words, matching); skills are initially taught with a controlling prompt by the instructor at a 0-second time delay, and then the wait time is delayed (e.g., 4 seconds) before delivering the controlling prompt (a physical, verbal, or positional cue to help the student make the target response).
Task analytic instruction (Research--based)	Steps of a task are broken down and taught as a series of tasks to be completed in order.
Chained tasks taught using task analysis and system of least prompts (Research-based)	Steps of a chained task are broken down into a series of discrete skills that are linked sequentially and then prompted through a system of least prompts (in which a hierarchy of prompts progress from the least intrusive to the most intrusive until the student makes the targeted response).
Simultaneous prompting (Research--based)	Errorless learning where an instructional cue and controlling prompt are presented simultaneously during teaching trials with probes conducted prior to the instructional session to measure skill acquisition.
Peer support interventions (Research-based)	Peer implemented supports are provided through various strategies where peers are taught to deliver the instruction and prompting.

Note: Information in this table is from Saunders et al. (2020), reproduced here with permission. They defined "evidence-based" as a practice conducted with a minimum of 20 participants, across five high- or adequate-quality single-case design studies with three different research teams in three geographic regions; and "research-based" as a practice conducted across three single-case design studies showing a functional relation with at least two research teams.

Figure 1: MTSS Framework: Aligning Academic, Behavioral, and Social-Emotional Instruction and Interventions for Students with the Most Significant Cognitive Disabilities



All students, including students with the most significant cognitive disabilities, receive Tier 1 supports, some students will need Tier 2 supports in addition to those in Tier 1, and a few students will need Tier 3 supports in addition to Tiers 1 and 2. Although many students with the most significant disabilities will participate in all three tiers, this is not a given. No student should only receive Tier 3 supports. Doing so would ignore the other levels of instruction and intervention that provide a complete program for the student. It would also prevent the student from benefiting from the effectiveness of lower tier instruction and supports.

The MTSS academic framework is the plan for all students to make progress in the general education curriculum. Collaborative teams determine how they will organize their instruction and interventions within classrooms, as well as any additional school-wide supports, if needed, for a small proportion of the students. The left-hand column of boxes represent academic standards-based instruction for all students, with the lower half of each box showing aligned supplementary strategies for students with significant cognitive disabilities. The right-hand column of boxes represent school-wide positive behavioral interventional and supports, again with the upper half showing interventions and supports for all students and the lower half showing aligned supplementary strategies for students with significant cognitive disabilities. The intent of this framework is to align as much as possible with a school's and classroom's approach to academics to collaboratively provide a standards-based curriculum and instruction.

Table 2 provides greater detail about what the academic and behavioral tiers for all students might include. It

also shows what aligned supplementary strategies for students with significant cognitive disabilities might look like.

Summary

Although it always will be critical for each student with the most significant cognitive disabilities to receive specially designed instruction, the implementation of a strong MTSS framework can ensure that the academic and behavioral needs of all students are met. All students can benefit from MTSS. To meet the needs of all students in a school, including those with the most significant cognitive disabilities, the framework needs to align general education and special education systems that provide supplemental special education supports. A focus on standards-based instruction and student learning has the potential to improve outcomes for all.

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Table 2: MTSS Framework: Further Details for an Academic and Behavioral/Social Emotional System Inclusive of All Students

Tiers	For All Students/ School-wide Focus	Aligned Supplementary Strategies for Students with the Most Significant Cognitive Disabilities
Academic		
Tier 1 – Standards-based Curriculum and Instruction	• Priority learning targets identified and taught • Effective teaching practices in place • Universal Design for Learning implemented	• Focus on the high priority learning targets • Differentiate how students express what they learn • Integrate concepts and vocabulary with Augmentative Communication system
Tier 2 – Targeted Instruction	• Use of flexible grouping within class focused on priority learning targets • School-wide supports	• Pre-teach to build prior knowledge • Reteach to reinforce priority learning
Tier 3 – Individualized Instruction	• Intensive instruction to eliminate/ minimize gaps	• Focus on skill gaps related to priority learning targets and additional academic IEP goals (e.g., reading skills)
Behavior and Social Emotional Growth		
Tier 1 – School-wide Positive Behavior and Supports	• School and classroom positive expectations, behaviors and routines are articulated, displayed and specifically taught • Positive school culture developed and supported • School-family partnerships developed	• Simpler language of same content used, visuals added, steps chunked into smaller steps • Self-regulation skill building taught • Concepts and vocabulary for the school-wide system integrated with Augmentative Communication system
Tier 2 – Targeted Instruction	• Supports for self-regulation and social skill development increased • School-wide services and supports available	• Pre-teach • Reteach • Provide sensory breaks and tools
Tier 3 – Individualized Instruction	• Functional behavioral assessment completed • Wrap-around supports added	• Behavior Intervention Plan developed as part of IEP

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