# A Practical View of MTSS

June 2018

Janice Garland, with Allison Layland and Julie Corbett
*Corbett Education Consulting LLC*

## Overview

Responding effectively to individual student needs is not a new concept. For more than two decades researchers and educators have been working to identify struggling students and provide behavioral and academic support to improve learning. Schoolwide Positive Behavior Supports (SWPBS) was first introduced in the 1997 reauthorization of the Individuals with Disabilities Act (IDEA) as a way to address the behavioral and social needs of students through evidence-based interventions. The concept of a tiered system of intervention was further supported by the introduction of Response to Intervention (RTI) in the 2004 reauthorization of IDEA. RTI and PBIS were then combined to create a thoughtfully designed, multitiered system of academic and behavioral supports (MTSS) for all students that result in improved student outcomes. This document presents a practice-based view for implementing MTSS and the role of leadership in the implementation. First, we provide an overview of the MTSS, the way in which common key elements for academic and behavioral intervention differ across tiers, the importance of the MTSS Leadership Team, and the role of data (screening, diagnosis, and progress monitoring) throughout the process. Next, evidence-based practices for implementing MTSS are provided. We close with tips for successful implementation and a resource list to support the implementation of MTSS.
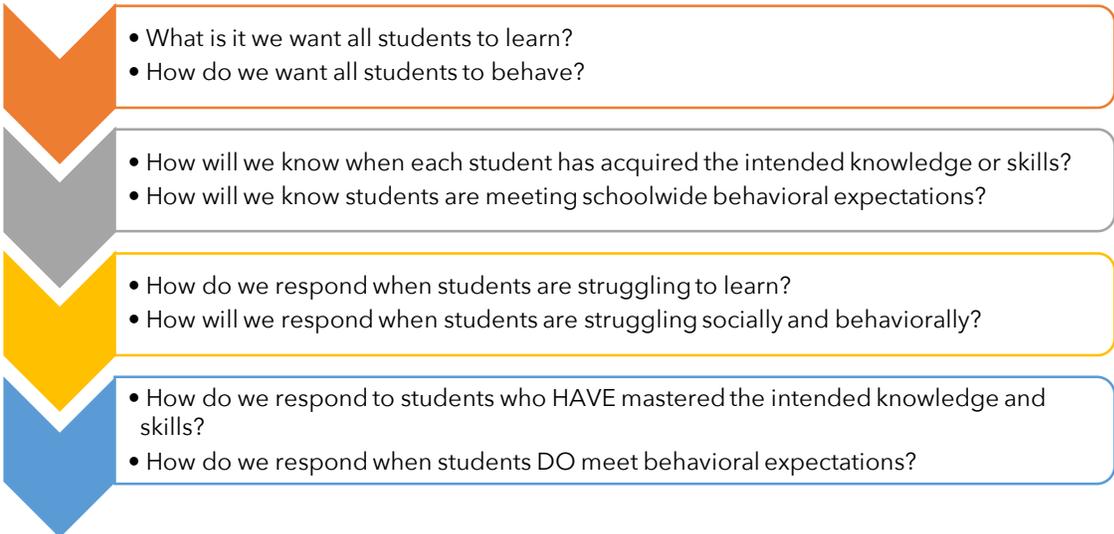
## MTSS Overview

RTI is a tiered support theory that "integrates assessment and intervention within a multi-level prevention system to maximize student achievement and reduce behavior problems" (National Center on Response to Intervention, 2010). RTI originated as a responsive and promising method to identify students with specific learning disabilities; however, the proactive systemic focus on using evidence-based strategies to intervene when students begin to struggle academically or behaviorally to support learning simply makes sense for all students. Positive Behavior Intervention and Support (PBIS, formerly known as Schoolwide Positive Behavior System) is a framework for establishing the whole-school social culture by addressing individual behavior through a tiered support approach focused on teaching behavioral expectations to minimize and prevent behaviors that disrupt classroom learning, and providing more intensive behavioral intervention based on identified needs (Sugai, Horner & Lewis, 2009). MTSS combines RTI and PBIS under one structural umbrella that provides tiered, evidence-based interventions for academics and behavior based on student needs. MTSS traditionally uses a three-tiered approach, differentiated by the intensity of student support provided: Tier 1 - preventative; Tier 2 – intervention and extension;

and Tier 3 – intense remediation (Buffum, Mattos & Malone, 2018). MTSS supports the vision that all students can and do learn, uses a collaborative approach to the problem-solving process, employs research-based academic and behavioral support within Tier 1 instruction and research-based interventions for Tiers 2 and 3, and relies on data-driven decisions regarding each tier of service (Villa & Thousand, 2017).

An integrated approach (academic and behavioral) is found to produce greater gains in both outcomes than single models (McIntosh, Chard, Boland & Horner, 2006; McIntosh, Flannery, Sugai, Braun & Cochrane, 2008). Additionally, MTSS is an all-inclusive, whole-school approach, not limited to students with disabilities, and inclusive of gifted students (Seedorf, 2014). Implementation of MTSS provides answers to the following questions (see Figure 1):

FIGURE 1. QUESTIONS ANSWERED WITH MTSS IMPLEMENTATION

- What is it we want all students to learn?
- How do we want all students to behave?

- How will we know when each student has acquired the intended knowledge or skills?
- How will we know students are meeting schoolwide behavioral expectations?

- How do we respond when students are struggling to learn?
- How will we respond when students are struggling socially and behaviorally?

- How do we respond to students who HAVE mastered the intended knowledge and skills?
- How do we respond when students DO meet behavioral expectations?

## MTSS Tiered Interventions

Understanding how the MTSS elements (audience, instructional focus, instructional time, assessment, service provider, setting, and percentage of the student body) differ from one tier to the next is key in planning the intervention process. Identified student needs inform the types and level of interventions needed, which in turn inform the need for staffing, professional development, materials, schedule adjustments, and physical space. Table 1 presents an overview of how the key elements differ across the three tiers of academic[1] and behavioral[2] interventions. The intensity of staff supports

and time commitment increases as academic and behavioral interventions intensify (Hawken, Vincent & Schumann, 2008; Fuchs & Fuchs, 2006).

*A – academic; B – behavioral

|  |  | Tier 1 | Tier 2 | Tier 3 |
|---|---|---|---|---|
| Audience |  | A, B* - All students | A - Students identified with marked academic difficulties and those who are not responding to Tier 1 efforts, in a small group based on skill deficits<br>B - Students with marked behavior not responding to Tier 1 (schoolwide discipline expectations), usually 2-5 office discipline referrals (ODRs), small group or individual | A - Students identified with marked academic difficulties not responding to Tier 2 efforts, in small groups or individually<br>B - Students not responding to Tier 2 supports with increasing ODRs (more than 6), signaling a more significant behavior concern |
| Instructional Focus |  | A - Delivery of high-quality instruction, differentiated to meet student needs<br>B - Delivery of clearly defined, schoolwide behavioral expectations (3-5) to include formal and predictable consequences | A - Research-based interventions: programs and/or strategies designed and employed to supplement, enhance and support Tier 1<br>B - Research-based strategies to support positive behavior based on daily progress reports (DPRs), check-in/check-out, self-management strategies, and social skills groups | A - Research-based interventions: programs and/or strategies designed and employed to supplement, enhance and support Tier 1 and Tier 2<br>B - Behavior support plans (BSPs) driven by functional behavioral assessment (FBA) |

| | | | |
|---|---|---|---|
| Instructional Time | A - Differentiated and flexible grouping format within the general education classroom<br>B - Individualized or group revisit of behavioral expectations within general education classroom | A - Minimum of 30 minutes/day, 3-4 times/week in small groups, in addition to Tier 1 instruction<br>B - In-context (e.g., classroom, gym, extracurricular activities) positive behavior support, weekly/monthly small group outside of Tier 1 instruction | A - Minimum of 30 minutes daily, 3-4 times/week in addition to Tier 1 and Tier 2<br>B - Daily/weekly individualized support (e.g., wraparound services) based on BSP outside of Tier 1 and Tier 2 |
| Assessment | A - Universal screening at beginning, middle, and end of academic year; assessment of students' strengths and interests, outcome assessment after units of instruction<br>B – Review of discipline record, previous behavior plans, and attendance record | A - Progress monitoring weekly or biweekly on target skills to ensure adequate p rogress and learning<br>B - Progress monitoring weekly or biweekly for 2-3 weeks on analysis of DPR to ensure positive change in behavior | A - Weekly progress monitoring on target skills to ensure adequate progress and learning<br>B - Weekly, or as indicated in BSP |
| Service Provider | A - General education classroom teacher<br>B - General education classroom teacher, counselor, or SWPBS team members | A - School-determined (e.g., literacy specialist, intervention specialist, Title 1 teacher, speech and language pathologist, etc.)<br>B - School-determined (e.g., behavioral interventionist, counselor, etc.) | A - School-determined (e.g., special education teacher, literacy specialist, intervention specialist, Title 1 teacher, speech and language pathologist, etc.)<br>B - School-determined (e.g., behavioral interventionist, counselor, external |

| | | | service providers – wraparound services |
|---|---|---|---|
| Setting | A, B - General education classroom | A, B - General education classroom or pull-out | A - Appropriate setting as determined by the school<br>B - Appropriate setting as determined by school or wraparound services provider |
| Approximate Student Body Percentage[1] | A, B - 80% (theoretical RTI model assumes 80% - 90% of students will meet Tier 1 benchmark levels of proficiency[3]) | A, B - 15% (theoretical RTI model assumes 10-15% of students will need more intensive support to meet Tier 1 benchmark levels of proficiency | A, B - 5% (theoretical RTI model assumes 1-5% of students will need the more intensive support to meet Tier 1 benchmark levels of proficiency |

*A – academic; B – behavioral

[1] Adapted from Whitten, Esteves & Woodrow, 2017; RTI Action Network, 2018.

[2] Adapted from Crone, Hawken & Horner, 2010; Hawken, Vincent & Schumann, 2008; Horner R.H., Sugai, G. & Anderson C.M. (2010).

[3] Batsche, 2005;  Sugai, Horner & Gresham, 2002.

## The MTSS Leadership Team

A guiding team is a critical structure that propels the MTSS implementation process forward and sustains progress. The MTSS Leadership Team provides leadership, guidance, training, coaching, and regularly assesses the effectiveness of interventions and the decision-making processes for successful implementation (Fixsen, Naoom & Duda, 2015; Horner, Kincaid, Sugai, Lewis, Eber, & Johnson, 2014). Some schools have separate teams for academic and behavioral interventions; however, an integrated team is suggested. The MTSS Leadership Team should include administrators, teachers, the behavioral coach, counselors, and intervention specialists (at a minimum). The team's structures and processes should be well-defined (e.g., norms, agendas, outputs) and have clear roles and responsibilities. Expectations for the process are clearly communicated (e.g., prepared agenda, data sets prepared in teacher-friendly format, attendance at a regularly scheduled meeting, minutes are taken and

distributed after the meeting), conveying the importance of the process and ensuring productive and efficient meetings (Buffum et al., 2018). A strong collaborative atmosphere where each team member has a voice will open the door to innovation (Rubin, 2009). An inclusive and proactive culture emanating from the MTSS Leadership Team sets the ensuing tone for the grade-level or content-area team meetings where student concerns and progress are discussed. The administrators provide guidance in decision-making but also ask the tough questions during discussions about progress data and fidelity of implementation. Expectations for those same tough discussions exist for grade-level or content-area meetings, often led by teacher leaders.

## MTSS Process

The MTSS process is based on the RTI process: 1) screening for at-risk students, 2) monitoring of student responsiveness to general standards-based instruction, and 3) determining a course of action. Steps 1 and 3 are iterative (Fuchs & Fuchs, 2006). The MTSS process involves the systematic use of assessment data and collaborative problem solving to identify student needs, determine interventions, and monitor and adjust the intensity of those interventions depending on the student's responsiveness (Lieb, Zibulsky, Dickinson, & Prisi, 2014). The student's response to intervention is the driving force in this process. The process requires continuous reflection on student progress by grade-level or content-area teams and teachers. Specific problem-solving steps are used to determine individual student needs and how to address those needs:

- Determine the magnitude of the problem
- Analyze its causes
- Design a goal-directed intervention
- Conduct the intervention as planned
- Monitor student progress
- Modify the intervention as needed based on progress data
- Evaluate intervention effectiveness
- Plot future actions (Grimes, 2002, as cited in Fuchs & Fuchs, 2006)

FIGURE 2. MTSS PROCESS



An inventory of current intervention resources (e.g., human capital, program resources, external partnerships) and processes (e.g., identification steps, tier transitions, reporting, exit criteria) is a first step in determining the current strengths and weaknesses in the existing instructional support process. District or school leadership establishes the initial structure for academic and behavioral interventions, while the MTSS Leadership Team develops and communicates well-defined expectations for the process and roles of stakeholders. Written documentation of the process, including a visual representation (e.g., flowchart, intervention tracking chart), communicates the process for administrators, teachers, students, and parents. Although the student response to a series of gradually intensifying research-based MTSS interventions does not serve the purpose of evaluation for specific learning disabilities, the response does provide information for consideration in an evaluation for special education services (IDEA, 2004).

## The Role of Data

Highly engaging schools develop their core philosophy and culture around data regarding their students' success and then build structures–and processes–to support that success (Blankstein, 2007). In the MTSS process, collection and analysis of data take place for three different purposes: screening, diagnosis, and progress monitoring (Batsche et al., 2005). The use of multiple data points (e.g., absences, ODRs, benchmark assessments, course grades) in the analysis of screening and progress-monitoring data is essential in the identification of individual student supports that are more closely related to cause, rather than symptomatic (Bernhardt, 2013). The use of additional data points also results in fewer false-negative test results which incorrectly indicate that a condition or need is absent. Tiered intervention is planned following school-established thresholds and progress made toward intervention goals. Pre-determined thresholds for screening (e.g., students below the 25th percentile, 6 or more ODRs) and progress monitoring (percent correct, rubric score, weekly behavior log incidents) support the identification of patterns in the data that indicate needed adjustments to a current intervention or the need for an additional or different intervention.

### *Universal Screening*

Universal screening of all students identifies the students at risk of struggling academically and behaviorally (Layland, 2009). Districts or schools administer a universal academic screener 2-3 times per year, depending on the screener, to ensure all at-risk students are identified. Multiple data points (e.g., absences, ODRs, state assessment results) are included in the analysis of screening results. Universal screening data are also used to make adjustments to core curriculum and instruction (Wayland, 2009). For example, if more than 25% of students are identified as having reading difficulties, then analysis of current reading curriculum, planning, and instruction should be conducted, and action should be taken to strengthen the core literacy instructional program. Although quite a few valid, reliable, and cost-efficient screening tools are available for elementary level, fewer are available for the secondary level. Since most dropouts follow identifiable pathways through the education pipeline, an early warning system (EWS) is frequently used in secondary schools as a screener (Jerald, 2006). Even though the focus of EWS is graduation and prevention of dropouts, academic data (historical state-assessment data, previous course failures, course credits, verified credits, grades), behavioral data (discipline data, suspensions), and attendance data play a crucial role in determining interventions (e.g., credit recovery, double-blocks, mentorship, check-in/check-out) that are implemented for

students off track to graduate on time. If the school does not have a screening tool for identifying students with behavioral needs, discipline data, attendance, and academic data can be triangulated to determine appropriate interventions.

However, caution should be used when using state assessment data to determine the need for intervention. Layland compared the use of state assessment data and a universal screener for reading at the secondary level and found that using the state assessment data resulted in significant false negatives (2009). State assessment results should always be used in conjunction with other academic data to verify need.

### Diagnostic Assessments

Diagnostic assessments are used after the initial screening, or as needed (e.g., when students are not responding to Tier 1 or Tier 2 intervention), to identify specific deficits in learning or behavior. This type of assessment can assist in the selection of specific methods or programs when planning appropriate interventions. Screening for prerequisite skills (Buffum et al., 2018) targets the cause of learning or behavioral issues (e.g., skill deficits composing and decomposing numbers, decoding, or social cues) and doesn't waste time and resources in treating the symptoms (low math fact test scores, frequent absences, difficulty getting along with classmates).

### Progress Monitoring

Progress monitoring is a continuous process used to assess individual student responsiveness to instruction or intervention that guides adjustments (e.g., addition of student to a small group, modifying the intervention strategy, transition between tiers) to improve student learning (Buffum et al., 2018; Johnson, Mellard & McKnight, 2006). The MTSS Leadership Team and teachers use progress monitoring data to delve deeply into patterns of poor or nonresponse to interventions (as well as patterns of response), using problem-solving methods to determine intervention intensity and appropriate next steps for addressing a student's lack of progress (Batsche et al., 2005). In most schools, formative assessments are administered weekly, or more frequently, and provide data on the effectiveness of curricular content, instructional methodology, and student skill development, thus answering the question: Is learning happening to the degree expected through the current instructional context, methods, and materials? (Whitten et al., 2009). Formative data are used to differentiate individual or small-group intervention for students with similar learning gaps. Based on the level of intervention (Tier 2 or Tier 3), progress-monitoring data tell teachers and teams how much progress students are making toward established goals related to skill deficits

and whether an adjustment is needed in the instruction or intervention. Formative assessment data are usually analyzed and shared by teachers in grade-level or content-area team meetings. The aggregate results and patterns can provide the MTSS Leadership insight on the alignment of classroom instruction, curriculum vertical articulation problems, and the need for professional development or district support and lead to an even more in-depth analysis of actionable causes (e.g., inadvertent tracking).

Data sets are used to identify at-risk students and the impact of assigned intervention(s); to determine if a student's needs are being adequately supported (resulting in exit); to determine if modifications to an intervention itself needs to be made; or decide whether a different intervention or intensity of intervention is needed. This is all part of the overall MTSS problem-solving approach.

## MTSS Implementation

As described above, MTSS provides administrators, teachers, and staff an instructional and behavioral framework with a common language and a system for data-based decision making and problem solving when students are not responding to the general core instruction or schoolwide behavioral expectations. Implementation of MTSS over the past several years has been found to decrease referrals to special education (VanDerHeyden, Witt & Gilberson, 2007), reduce disproportionality in boys identified in special education (VanDerHeyden et al., 2007), reduce the probability that youth become part of the juvenile justice system (Fowler, 2011), and reduce inequitable disciplinary exclusions (Fowler, 2011). Although implementation of an intervention system is theoretically straightforward, inconsistent implementation practice (implementation gap) is where most systems fall short (Wallace, Blasé, Fixsen & Naoom, 2008). Full implementation is driven by a prevailing belief that all students can learn and meet behavioral expectations and an underlying desire for equity. A collective effort in taking responsibility for addressing why students are not learning or behaving is needed by all staff, not just the teachers. Implementation of interventions with fidelity calls for stakeholder engagement, ongoing district support, and leveraged accountability. Constant refinement and redistribution of student supports could become chaotic if the commitment, time, collaboration, and communication are not in place. Having clear implementation expectations, maintaining a focus on those expectations, and recognizing teachers and students for implementation fidelity supports success.

Pre-training and ongoing support (Bineham, Shelby, Pazey & Yates, 2014) during implementation ensures that district- and school-level educators have the capacity to analyze data from universal screenings, diagnostics, and progress monitoring to inform next steps. The triangulation of multiple data points (attendance, behavior, course grades, implementation fidelity, and the intervention progress measure) is essential in examining the intervention's effectiveness with individuals and as an overall program. Roles of the MTSS Team and key stakeholders include documentation of implementation details (purpose and frequency of delivery and data collection), assignment to intervention, establishing (pre/post) measure(s), and determining a schedule and format for reporting progress and goal attainment.

## Resource Mapping

Resource mapping is defined as a system-building process historically utilized by communities, organizations, schools, and service centers to align resources, strategies, and outcomes available (Crane & Mooney, 2005). Prior to developing a system of tiered interventions, or as a reflection on the current system, it is essential to inventory the intervention assets (human, programs/materials) that are currently in place to determine if there are gaps and unaddressed needs, as well as instructional and organizational barriers to meeting the school's goal of improved student learning. Examination of assets includes general core instructional program and interventions (Tier 1 high quality instruction, differentiation, schoolwide behavioral expectations), as well as community resources (e.g., counseling centers, community partnerships) used to enhance core learning opportunities. A precise definition of each evidence-based intervention's key components and a documented MTSS Leadership Team's decision-making process provides clarity and leads to effective monitoring of implementation fidelity (Fixsen et al., 2015). Suggested descriptors for each intervention's core components are listed below. Table 2 is an example of a resource map.

- Intervention name (brief description and Tier)
- Tier definitions (includes identification and exit criteria)
- Targeted students (identification and exit criteria to discontinue the intervention)
- Delivery method (provider, frequency, duration)
- Progress monitoring tool and reporting (measures and frequency)
- Cost
- Measured impact from previous year (effectiveness)

| Content Area |
| --- |
| • Math |

| Name of Intervention |
| --- |
| • *SAMPLE ENTRY*<br>• World Math<br>• Other support provided by: District<br>• Fiscal - increases $27K annually<br>• School - math coach monitors |

| Description |
| --- |
| • Computer-based program aligned to core standards; adaptive; blended learning model; teacher-assigned modules |

| Target Group |
| --- |
| • Tier 2 students grades 6-8, except those taking Algebra and Geometry with grade of C or above |

| Student (Qtr 1) |
| --- |
| • Tier 2 120/21% |

| Frequency, including # of minutes/week |
| --- |
| • Weekly; 90 minutes per week (30 minutes a day/3 times per week);<br>• Small group support on lesson content (20 mins/once per week) |

| Person(s) Responsible for Delivery |
| --- |
| • Classroom Teacher |

| Person(s) Responsible for Monitoring |
| --- |
| • **Math Coach** (monitors use by teachers, including how much time is spent by each class and student and number of lessons completed for fidelity of implementation), reported weekly;<br>• **Department Chair** (monitors progress and reports to Grade Level/Content Team and Leadership Team bi-weekly);<br>• **Administrators** (monitor student engagement through observation and review of summary reports to Leadership Team) |

| Tracking Mechanism |
| --- |
| • Class and Student-Level Reports from World Math:<br>• 1. Number of sessions<br>• 2. Progress<br>• 3. Completion of lessons |

| NEXT STEP |
| --- |
| • Establish process to monitor implementation fidelity |

Implementation includes the ongoing analysis of the impact of each intervention and its related key components to determine if the intervention was implemented with fidelity (as it was intended to be implemented). If the analysis results in a "no," then we ask, "What was the discrepancy between the intended and actual implementation, and

did the deviation impact student results?" These same questions are asked for the written and implemented MTSS process. Based on the responses, the MTSS Leadership Team determines whether to continue the intervention as is, continue with adjustments to improve the fidelity of implementation and student results, or discontinue the intervention. They also determine what supports (e.g., professional learning, coaching, scheduling adjustments) need to be in place to stay true to the process. The data also indicate whether the structure or implementation process requires tweaking. Using multiple data points (e.g., program data, absenteeism, behavior, and grades) assists in validating the measure of impact. An inspection of Tier 1 instruction and interventions is required first and foremost, as this will indicate whether core instruction, formative assessments, and differentiation are being effectively implemented. A review of lesson plans and assessments, behavioral plans or charts, classroom observations, student learning data, and ODRs will provide evidence of Tier 1 implementation fidelity.

## In Conclusion

The MTSS is an integrated process that ensures timely and needs-based academic and behavioral supports for all students, driven by an underlying belief that all students can learn and behave if provided the appropriate needs-based supports. The MTSS Leadership Team ensures the structures and resources are in place to support implementation across all tiers. Not only does the team drive the process, but they also conduct program evaluations to determine if interventions are positively impacting student learning and behaviors. In addition, the fidelity of implementation is continuously monitored across the school and district. Data-based decisions and problem-solving play a primary role in the identification of student needs, delivery of interventions aligned with needs, and progress monitoring. District and school staff require extensive and ongoing training to implement MTSS successfully. Training enhances the four components of capacity: building knowledge and skill sets for tiered academic and behavioral interventions (human capacity); developing a collaborative effort around the unifying vision of equity (social capacity); establishing and implementing the iterative process with fidelity (program coherence); and securing the resources and creating the structures to meet the identified needs (resource capacity). Implementation fidelity is key to successful implementation and improved student learning.

## Tips for Successful Implementation

- Ensure strong Tier 1, strategic collection and analysis of data to identify inconsistencies, inequities, and support needed by the individual school. Use common "look fors" (e.g., differentiation in written plans and observation in delivery).
- Backward design planning and unit design will enhance the focus on identifying what students need to learn and how teachers will know when they learn it.
- Use a timed agenda to ensure that all teams complete the agenda in an efficient but effective manner, demonstrating that their time is valued.
- Ensure that cultural, linguistic, and socioeconomic factors are reflected in the MTSS framework and its components (www.rti4success.org).
- Begin interventions the first week of school. There should be adequate historical data to inform differentiation in the classroom, and for Tier 2 and Tier 3. Set expectations early and support learning for all students from Day 1.
- Time allocation of 30 minutes for intervention does not consider time for arriving, getting organized and packing up. Plan schedules that accommodate intended engagement time.
- Consider peer-student teams (trained) to serve as instructional support within the block (consider 2 or 3 different types of personalities so all students will be comfortable engaging).
- Ensure the design of interventions includes enhanced learning opportunities for students not requiring remediation.
- Consider a full- or part-time SWPBIS coach position for the first year to implement the program: training, modeling, supporting classroom implementation, progress monitoring, and managing reward systems.
- Consistent and appropriate SWPBIS rewards are critical to success. Based on local resources, explore partnering with community businesses for rewards.
- Tap the district for support: specialists, data-analysis training, and effective meetings.
- Tap community resources: facilities for off-site evening interventions.
- Consider development of community partnerships for building students' nonacademic skills for career and life, and to re-engage those disengaged students.

## Resources

RTI: comprehensive information, hands-on tools for teachers, step-by-step implementation guide for administrators.

> Whitten, E., Esteves, K., & Woodrow, A. (2009). *RTI success: Proven tools and strategies for schools and classrooms.* Minneapolis, MN: Free Spirit Publishing, Inc.

RTI: focused on PLC-type implementation; discusses roles, culture of collective responsibility, teacher team essential actions, schoolwide actions, tier essential actions; includes forms for implementing components.

> Buffum, A., Mattos, M. &Malone J. (2018). *Taking action: A handbook for RTI at work.* Bloomington, IN: Solution Tree Press.

Resource mapping toolkit overview of resource mapping, the role of school teams in the process, and tools and strategies for conducting effective resource mapping.

> Early Ongoing Collaboration and Assistance (EOCA Wisconsin). *Resource Mapping Toolkit (2011).* Retrieved from:
> http://sss.usf.edu/resources/presentations/2011/FASSW/EOCA Wisconsin.pdf.

Data meeting team script with facilitator notes (procedures, prompts, recordings).

> Pennsylvania Department of Education (Revised 2008), Adapted from Kovaleski, J. F., & Pedersen, J. (2008). Best practices in data analysis teaming. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology, V.* Bethesda, MD: National Association of School Psychologists. *Data Analysis for Instructional Decision Making: Team Process.* Retrieved from:
> http://www.rtinetwork.org/images/content/downloads/include essential components/kovaleski_team_script.doc.

Ideas for standards-relevant instruction across tiers with lesson samples (differentiation).

> National Center on Response to Intervention. (2015). *Standards-Relevant Instruction & Multi-Tiered Systems of Support (MTSS) or Response to Intervention (RTI).* Retrieved from https://intensiveintervention.org/standards-relevant-instruction-multi-tiered-systems-support-mtss-or-response-intervention.

PBIS website supported by USED: Office of Special Education Programs (OSEP): Explanations of behavioral tiers, presentations (.ppt) by experts, training, resources from various states, etc. (elementary and secondary resources).

OSEP Technical Assistance Center on Positive Behavioral Interventions and Supports. (2017). Positive Behavioral Interventions & Supports [Website]. Retrieved from: http://www.pbis.org/.

Center on Response to Intervention at American Institute for Research: information and resources for universal screening, progress, monitoring, data-based decision making, resources for MTSS/RTI implementation, training modules (elementary, secondary, English learners, special education.
https://rti4success.org/resources

# References

Batsche, G., Elliott, J., Graden, J. L., Grimes, J., Kovaleski, J. F., Prasse, D., Reschly, D. J., Schrag, *J.*, & Tilly, W. D. (2006). Response to intervention: Policy considerations and implementation. National Association of State Directors of Special Education Inc: Alexandria, VA.

Bernhardt, V. (2013). Data analysis for continuous school improvement. New York, NY: Routledge.

Bineham, S.C., Shelby, L., Pazey, B.L. & Yates, J. R. (2014). Response to Intervention: Perspectives of general and special education professionals. *Journal of School Leadership, 24(2)*, 230-252.

Blankstein, A. [Editors: Cole, R. & Houston, P.]. (2007). *Engaging every learner*. Thousand Oaks, CA: Corwin.

Bradshaw, Catherine P; Mitchell, Mary M; Leaf, Philip J. *Journal of Positive Behavior Interventions. 12(3),* 133-148.

Buffum, A., Mattos, M. &Malone J. (2018). *Taking action: A handbook for RTI at work*. Bloomington, IN: Solution Tree Press.

Crane, K., & Mooney, M. (2005). *Community resource mapping (Essential tools).* Minneapolis, MN: National Center on Secondary Education and Transition.

Crone, D.A., Horner, R.H., & Hawken, L.S. (2004). Responding to problem behavior in schools: The behavior education program. New York: The Guildford Press.

DuFour, R., DuFour, R., Eaker, R. & Karhanek, G. (2010). *Raising the bar and closing the achievement gap*. Bloomington, IN: Solution Tree Press.

Elliot, S. & Gresham, F (2008). Social skills improvement system (SISS) intervention guide. Minneapolis, MN: Pearson.

Fixsen, D.L., Blasé, K.A., Naoom, S.F. & Duda, M. (2015). *Implementation drivers: Assessing best practices.* Research Brief. Chapel Hill: The University of North Carolina, FPG, NIRN.

Fixsen, D.L., Naoom, S.F., Blase, K.A., Friedman, R.M., & Wallace, F. (2005). *Implementation research: A synthesis of the literature (FMHI #231)*. Tampa, FL: University of South Florida, Louis de la Parte Florida Mental Health Institute, The National Implementation Research Network.

Fowler, D. School discipline feeds the "pipeline to prison." *Phi Delta Kappan, 93(2),* p. 14-19. Fuchs, D., & Fuchs, L. S. (2006). Introduction to response to intervention: What, why, and how valid is it? *Reading Research Quarterly, 41(1),* p. 93-99.

Harlacher, J. E., Sanford, A., & Walker, N. N. *Distinguishing Between Tier 2 and Tier 3 Instruction in Order to Support Implementation of RTI*. RTI Action Network. Retrieved from: http://www.rtinetwork.org/essential/tieredinstruction/tier3/distinguishing-between-tier-2-and-tier-3-instruction-in-order-to-support-implementation-of-rti.

Hawken, L. S., Vincent, C. G. & Schumann, J. (2008). Behavioral tiering adapted from: Response to intervention for social behavior: Challenges and opportunities. *Journal of Emotional and Behavioral Disorders*, *16(4)*, 213-222.

Horner, R. H., Kincaid, D., Sugai, G., Lewis, T., Eber, E. . . . Johnson, N. (2014). Scaling up school-wide positive behavioral interventions and supports: Experiences of seven states with documented success. Journal of Positive Behavior Interventions, 16(4), 197-208.

Horner, R. H. & Sugai, G. (2015). School-wide PBIS: An example of applied behavior analysisimplemented at a scale of social importance. *Behavior Analysis in Practice*, 8(1), 80-85.

Horner R.H., Sugai, G. & Anderson C.M. (2010). Examining the evidence-base for school wide positive behavior support. *Focus on Exceptional Children*. 42(8), p 1–14.

Individuals with Disabilities Education Act of 2004, 20 USC 1414(b)(6) (2004).

Jerald, C. (2006). *Identifying potential dropouts: Key lessons for building an early warning datasystem.* Washington, DC: Achieve, Inc.

Johnson, E., Mellard, D. F., & McKnight, M. A. (2006). *Responsiveness to intervention (RTI): How to do it.* Lawrence, KS: National Research Center on Learning Disabilities.

Jung, L.A. (2018). *From goals to growth: Intervention & support in every classroom*. Alexandria, VA: ASCD.

Layland, A. (2009). *Examination of universal screening in response to intervention at the secondary level* (Doctoral dissertation). Electronic Theses and Dissertations (856). Retrieved from: https://digitalcommons.du.edu/etd/856.

Lieb, P., Zibulsky, J., Dickenson, F. & Pisi, D. (2014). *RTI/MTSS Implementation Guide*.RTI Committee of the Inclusion Action Group Project [led by New Jersey Coalition on Inclusive Education]. Retrieved from: http://www.nj.gov/education/njtss/started.pdf.

Loftin, R. L., Gibb, A. C. & Skiba, R. (2005). Using self-monitoring strategies to address behavior and academic issues. *Impact, 18(2), 12-13*. Retrieved from the website of the Community on Integration, University of Minnesota (https://ici.umn.edu/products/impact/182/over6.html).

McIntosh, K., Chard, D. J., Boland, J. B., & Horner, R. H. (2006). Demonstration of combined efforts in schoolwide academic and behavioral systems and incidence of reading andbehavior challenges in early elementary grades. *Journal of Positive Behavior Interventions, (8)*, 146-154.

McIntosh, K., Flannery, K. B., Sugai, G., Braun, D. H. & Cochrane, K. L. (2008). Relationships between academics and problem behavior in the transition from middle school to highschool. *Journal of Positive Behavior Interventions, 10(4),* 243-255.

National Association of State Directors of Special Education (NASDSE). (2008). *Response to Intervention: Blueprints for implementation*. Alexandria, VA: NASDSE, Inc.

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

Intervention.  Retrieved from:
https://rti4success.org/sites/default/files/rtiessentialcomponents_042710.pdf.

RTI Action Network. (2018). *Tiered instruction/Intervention.* Retrieved from:
http://www.rtinetwork.org/essential/tieredinstruction.

Rubin, H. (2009). *Collaborative Leadership.* Thousand Oaks, CA: Corwin Press.

Sansoti, F. (2010). Teaching social skills to children with autism spectrum disorders using tiers of support: A guide for school-based professionals. *Psychology in the Schools, 47(3)*, 257-281.

Seedorf, S. (2014). Response to intervention: Teachers' needs for implementation in gifted talented programs. *Gifted Talented Today*, *37(4)*, 248-257.

Sugai, G. & Horner, R. H. (2002). The evolution of discipline practices: School-wide positive behavior supports. *Child and Family Behavior Therapy, 24,* 23-50.

Sugai, G., Horner, R. H. & Gresham, F. (2002). Behaviorally effective school environments. In M. R. Shinn, G. Stoner & H.M. Walker (Eds.). *Interventions for academic and behavior problems: Vol 2. Preventive and remedial approaches* (p 315-350). Silvers Spring, MD: National Association for School Psychologists.

Sugai, G., Horner, R. H., & Lewis, T. (2009). *School-wide positive behavior support: Implementers' blueprint and self assessment.* Eugene: University of Oregon, OSEP Technical Assistance Center on Positive Behavioral Interventions and Supports.

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

Wallace, F., Blasé, K., Fixsen, D. & Naoom, S. (2008). *Implementing the findings of research: Bridging the gap between knowledge and practice.* Alexandria, VA: Educational Research Services.

Whitten, E., Esteves, K., & Woodrow, A. (2009). *RTI success: Proven tools and strategies for schools and classrooms.* Minneapolis, MN: Free Spirit Publishing, Inc.