Data-Based Problem Solving: Effective Implementation of MTSS, RTI, and PBIS

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Data-based problem-solving approaches to education include several schoolwide frameworks. For example, a school might use a multi-tier system of supports (MTSS), response to intervention (RTI), or positive behavioral interventions and supports (PBIS). This type of problem-solving approach plays a critical role in the education of all students, and RTI is sometimes used specifically to aid in the identification of students who have learning disabilities under the Individuals with Disabilities Education Act (IDEA). However, there is confusion about these terms, how they differ, and how they should be used in schools. This paper aims to provide parents, educators and school professionals, and policymakers with a common language and shared understanding of the terms so that, together, we can improve practice and better serve all students.

A comprehensive and systematic data-based approach to schooling and intervention is at the core of all good instruction. In its simplest form, data-based problem solving means that all children are screened for academic and behavioral problems. For those identified as at risk, teachers monitor student academic performance and behavior, changing course to intensify supports for students not making adequate progress.

Data-based approaches have different names: multi-tier systems of supports (MTSS), response to intervention (RTI), and positive behavioral interventions and supports (PBIS). Each term refers to a slightly different approach or focus, all based on the key principle of providing evidence-based services. In some instances, the variability of terms has led the field to different understandings of the structure, purpose, and ownership of these approaches within schools. This can cause confusion and can lead to ineffective, sometimes even inappropriate, implementation.

Regardless of the name, all data-based approaches should have certain essential components: early screening; ongoing progress monitoring; decision making about student support based on timely and relevant data; multiple tiers of support; high-quality, effectively-administered instruction and interventions; and communication among stakeholders.


This document discusses these essential components of any data-based, problem solving approach to schooling and addresses the common misconceptions that minimize the effectiveness of these approaches.

**Essential Components of a Data-Based Problem-Solving Approach to Schooling**

Over the past few decades, many researchers and advocates have promoted the use of data-based problem-solving methods as a means to improve supports for struggling students. In 2004, Congress reauthorized the Individuals with Disabilities Education Act, allowing districts to use the RTI process to determine eligibility for special education and related services due to a specific learning disability. Then, in 2015, President Obama signed the Every Student Succeeds Act, which allows states and districts to use various funding streams to support the implementation of the MTSS framework. As a result of these changes, the terms “RTI” and “MTSS” took on specific, separate connotations for some.

RTI is viewed by some as a way to support struggling learners in core academic areas like reading and math. RTI is explicitly mentioned in IDEA, so some view it as a way to collect information to determine whether a student is eligible for special education. On the other hand, MTSS is often seen as a system-wide framework that provides layers or tiers of service to all students (Tier 1), some students (Tier 2), or few students (Tier 3) in the areas of academics, behavior, and social-emotional learning, depending on their level of need. Regardless of the name, however, all data-based approaches have much in common and must include several essential components.

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Multiple tiers. Data-based approaches have multiple—usually three—tiers through which all services (academic, behavioral, and social-emotional) are delivered. Tier 1, made up of high-quality universal instruction and support, is designed for all students. Tier 2, which consists of supplemental evidence-based intervention, is designed for some students. Tier 3, which provides intensive, data-driven, individualized intervention, is designed for few students.

Within each tier, educators use high-quality, evidence-based instructional and support strategies implemented with fidelity and monitored for student progress. Students may progress to a more intensive tier if they do not demonstrate a positive response to instruction or supports.

High-quality universal (Tier 1) instruction is foundational to the success of all students. The instruction and supports students receive in either Tier 2 or Tier 3 are in addition to the instruction and supports provided to all students in Tier 1. Educators monitor the progress of students’ academic, behavioral, and social-emotional learning. In Tier 1, educators screen students to determine who may need more intensive supports. In Tiers 2 and 3, educators should use progress monitoring to inform next steps. If students do not progress as expected, schools provide more intensive, research-based, supports.

High-quality, effectively administered instruction and interventions. All students must receive high-quality, evidence-based instruction, supports, and interventions. The design, delivery, and evaluation of high-quality instruction typically is guided by grade-level or subject-area lesson planning processes. It is through this process that educators design and deliver high-quality, evidence-based instruction and interventions aligned with state educational standards.

Ensuring that instruction is evidence-based and delivered as intended—or with fidelity—is necessary. If the instruction is not implemented well or is not appropriate, then students will not progress as expected. In this case, the data are reflecting instructional issues rather than student issues. It is essential to know when it is the instruction that is responsible for poor progress and when it is student factors that are responsible for poor progress.

Ongoing screening and progress monitoring. The screening process involves using valid, reliable assessment tools to identify students who are struggling and need monitoring of instructional response. Progress monitoring assesses student rate of progress over time and gives educators information regarding whether the students are “on track” to meet grade-level expectations. The data collected should measure student progress based on state academic standards, behavioral standards or benchmarks, and social-emotional learning skills. It is important that all data collected are evidence-based and accurately measure those developmental areas.
Communication among educators, families, and stakeholders. Multiple educators (teachers, administrators, support staff) interact with and serve students each day. To have a cohesive and integrated method of instruction and supports, professionals must communicate and share student progress data, appropriately adapt instruction, and make informed decisions about the next steps for students.

Families must be partners in the process. Schools should help families understand the data being used and the instructional decisions being suggested, as well as provide educators with additional information and supports to promote student success. Families should be offered ample opportunities to meaningfully engage in every step of this process—not be informed only after decisions have been made. While this is a best practice for all students, it is required by the Individuals with Disabilities Education Act for students who have or who are suspected of having a disability.4

What a Data-Based Problem-Solving Approach Is Not

Parents and educators have faced challenges with the implementation of data-based approaches to schooling children and youth. In particular, attaining a common language or shared understanding regarding the purpose and use of a response to intervention (RTI) framework in the evaluation for special education services requires continued efforts.

Since the reauthorization of IDEA in 2004, states must permit districts to use an RTI framework to determine special education eligibility for students with specific learning disabilities. However, even if states permit the use of other frameworks as well, evaluations to determine eligibility for special education due to a specific learning disability must consider instructional response.5

As a result, some states, districts, and schools have interpreted the regulations to mean that RTI is solely meant for special education eligibility and is not to be used as a data-based method to evaluate the impact of instruction and supports on outcomes for every student. In other instances, some states, districts, and schools have interpreted the regulations to mean that specific, sequential steps had to be taken before making eligibility decisions—this serving as a roadblock to timely evaluations.

These different interpretations of the regulations have confused parents and educators. As a result, RTI is not being implemented most effectively to accelerate the performance of all students and to identify, reduce, or eliminate barriers caused by a disability.

5 Ibid.
Using RTI as part of any decision-making process helps answer this question: “Is the poor response due primarily to instructional factors or to student factors—including the possibility of a disability that presents challenges to student progress in school settings?”

Certain “myths” regarding the use of RTI/MTSS persist and impact the effectiveness of a data-based approach.

**MYTH: Data-based approaches are only a means to determine eligibility for special education.** This is not true. Although data-based approaches may help inform eligibility for special education, they should be at the heart of good instruction for every student. Any child can move through this type of process and receive instruction and interventions as part of a schoolwide approach to improving outcomes for all students. While instructional response data is one component of a comprehensive evaluation for special education eligibility, the primary purpose of these processes is to identify the academic, behavioral, and social-emotional learning needs of students as early as possible. Early identification and intervention are the most effective methods of ensuring student success, regardless of the challenges faced by students.

**MYTH: Data-based approaches are a way to delay or deny a special education evaluation.** This is not true. While IDEA allows districts to use a data-based approach, specifically RTI, as a component in determining eligibility for special education due to a specific learning disability, nothing about the process usurps the federal requirements for a timely evaluation. A referral for an evaluation for special education can happen at any time, and a district has 60 days from the date of receiving parental consent to make an eligibility determination.

In 2011, the U.S. Department of Education issued guidance to clarify that specific timelines for the use of the RTI process should not delay the eligibility determination process. Instead, the team responsible for completing the evaluation should use the data available to them from the RTI process when making their determination as to whether the child is eligible for special education.

**MYTH: Data-based approaches are rigid and require schools to follow a set timeline or provide certain interventions.** This is not true. Schools should use instructional data to determine the impact of the instruction and how long the instruction/intervention should continue, or whether it should be adjusted or terminated. The data-based process provides evidence-based methods and strategies to make these determinations.

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6 U.S. Department of Education, Office of Special Education and Rehabilitation Services. *A response to intervention (RTI) process cannot be used to delay-deny an evaluation for eligibility under the Individuals with Disabilities Education Act (IDEA), January 21, 2011.*
Many states have adopted guidelines for what constitutes a “positive instructional response” (where significant improvement is seen and the performance gap is closing), a “questionable instructional response” (where improvements are seen but the performance gap is not closing or is not closing fast enough), and a “poor instructional response” (where there is no improvement or there is a continued decline over the time period in which research indicates improvements should be seen). Determining the basis for variations in instructional response is the core feature of a data-based approach.

**MYTH:** Data-based approaches are frameworks meant only for struggling students. This is not true. A data-based approach can help educators differentiate instruction for students at all levels of performance. Data-based decision making is equally effective for high-performing students (to monitor their progress to ensure continued high levels or to problem solve about why higher levels are not being demonstrated) and for students whose performance is below expectations based on state standards. It is also particularly useful for students—including students with identified areas of disability or twice-exceptional students—who also need advanced or accelerated instruction in a particular area of strength. The goal of data-based decision making is to accelerate the performance of all students, not just to close the gap. High-performing students sometimes require intensified instruction to remain high performing. Some students who have reached grade-level expectations through the use of Tier 3 services can continue to improve with less intensive services. It is important to remember that the tiered-delivery model is fluid and dynamic—in both directions—and is necessarily so to meet the needs of all students.
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