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Response-to-Intervention Models and Access to Services for All Students

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Decades of federal school reform initiatives have drawn attention to the importance of systematically identifying students' needs and using data to guide decisions about the application of practices with demonstrated efficacy for enhancing learning and behavior (e.g., No Child Left Behind Act, 2001; Individuals with Disabilities Improvement Act, 2004; Every Student Succeeds Act, 2015). this time, response-to-intervention During (RTI) service delivery models have increased in popularity in schools as a means of providing a continuum of supports for all students. By emphasizing early screening of students, the provision of multi-tiered instructional supports, and regular monitoring of progress to identify adjustments to improve intervention effectiveness, RTI service delivery models are proactive in addressing students' needs. They afford significant advantages over traditional "wait to fail" approaches to supporting students with significant difficulties or disabilities, which involved identifying student performance gaps after extended periods of insufficient instruction, often withholding intervention until a discrepancy in students' IQ and achievement could be demonstrated (Fletcher, Coulter, Reschly, & Vaughn, 2004).

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Although RTI service delivery models hold great promise with respect to increasing students' access to appropriate instructional practices, they are rarely implemented with the degree of fidelity or explicitness in instructional approach required to ensure that all students receive the support that they need (e.g., Glover, 2017; Glover & DiPerna, 2007). The purpose of this chapter is to introduce RTI service delivery components and organizational structures required to promote all students' access to and participation in practices that allow them to excel in school. The chapter concludes with a discussion of (a) the state of relevant research and (b) evidence-based resources for guiding RTI service delivery that is responsive and accessible to all students.

Service Delivery Components that Promote Accessibility

Within an RTI service delivery framework, at least five primary components facilitate students' access to, and participation in, high-quality instruction: (a) comprehensive student assessment via screening, diagnostic measurement, and progress monitoring, (b) standardized data-based decision-making, (c) multi-tiered implementation of student support based on a continuum of needs, (d) the provision of evidence-based instruction/intervention, and (e) multi-stakeholder involvement in coordinated leadership. Each of

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these components is needed to ensure that access is adequately provided.

Comprehensive assessment via screening, diagnostic tools, and progress monitoring. A comprehensive assessment approach that involves screening of all students, diagnostic measurement, and progress monitoring at regular intervals is necessary to identify and address potential instructional needs. By measuring skills or behaviors predictive of student success, screening assessments are used to identify potential areas of concern for individual students early on, as opposed to waiting for students to experience significant difficulties or performance deficits. Through screening and follow-up diagnostic assessment of students identified as potentially at risk, educators are able to determine which instructional practices to prioritize (e.g., Glover & Albers, 2007). For example, in the area of early reading, first grade screening in phonics at the beginning of the school year (e.g., screening via the DIBELS Next Nonsense Word Fluency assessment) is often utilized along with followup diagnostic tools (e.g., a phonics inventory) to match instruction to students' skill needs, thus promoting access to differentiated practices that promote immediate skill development.

Likewise, regular monitoring of individual students' progress in response to instruction or intervention is useful for determining whether, over time, students are provided access to the most appropriate instruction (e.g., Fuchs & Fuchs, 2006). For example, if weekly monitoring of a student's phonics skills via the DIBELS Next Nonsense Word Fluency assessment indicates that the student is inadequately responding to a prescribed phonics intervention, this alerts educators to the need for access to an alternative form of student support.

Standardized data-based decision-making Students' access to instruction and/or effective intervention is also promoted through the application of common data-based decision criteria (e.g., Glover & DiPerna, 2007). For example, as illustrated in Fig. 10.1, the use of a standardized decision tree approach to guide student instructional grouping in the areas of early reading helps ensure students are provided with individually appropriate instructional opportunities. Within this example framework, a second grade student who is not meeting beginning-of-year benchmark proficiency at oral reading fluency is assessed to determine whether he or she meets expectations for nonsense word fluency. Based on whether the student meets or exceeds the nonsense word fluency benchmark, he or she is either recommended for a fluency intervention (if benchmark is achieved) or a phonics intervention (if benchmark is not met). Students' specific skill needs are then diagnosed, and those with similar needs are grouped together. Thus, with a standardized decision-making framework, students are afforded access to specific interventions matched to their data-identified needs, rather than grouped into a general category of services (e.g., assigned to a resource room or title services) which may vary in appropriateness.

Multi-tiered support based on a continuum of needs The application of multi-tiered support is also important for promoting students' access to and participation in instruction/intervention. Within an RTI service delivery framework, instruction is provided at a universal level for all students (Tier 1), a targeted level (Tier 2) for groups of students whose needs are not met by Tier 1 services, and an intensive, individualized level (Tier 3) for those that require even more support than what Tier 2 affords. By using data to guide instruction along this continuum, educators are able to assign students to appropriate instructional practices (e.g., Fuchs & Fuchs, 2006; Glover & DiPerna, 2007). For example, in the area of reading, a student who does not meet benchmark expectations and is assigned to a Tier 2 phonics intervention and monitored over time for his response to intervention might receive an individualized, Tier 3 intervention when Tier 2 services do not improve his performance over time. This approach provides instructional support for all students, including those who with a traditional classification model for receiving special education services would not have been eligible for special education services

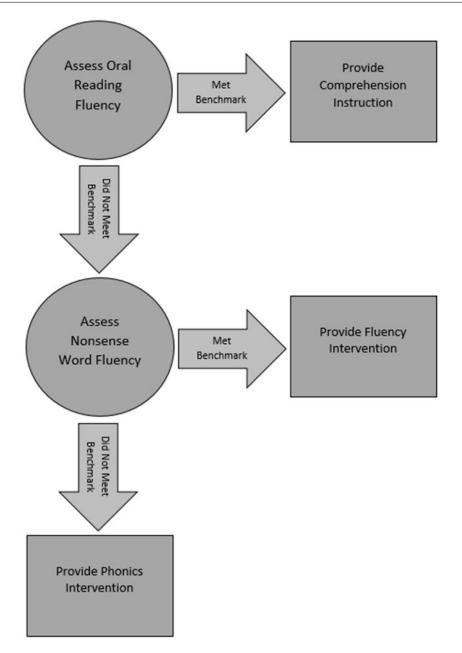


Fig. 10.1 Second grade decision tree for data-based early reading intervention decisions (Adapted from PRESS Research Team, 2013)

(e.g., students performing poorly with IQ and achievement tests scores too close to one another for the students to be eligible for services). Thus, the provision of data-guided instruction and intervention at multiple tiers helps to maximize access to services based on a wide range of needs. A primary factor that differentiates the multi-tiered approach within an RTI framework from other service delivery models is its focus on the provision of a continuum of supports that enable students not only to access instruction but also to be active participants. Multi-tiered service delivery within an RTI framework is designed to address the needs of students with a large range of academic difficulties, including those with moderate to significant disabilities who may require specialized interventions to meet their learning needs. As Fuchs and Fuchs (2016) have observed, intervention provision within an RTI service delivery approach involves more systematic adaptation of instruction based on students' needs than what is typically offered through routine teacher variations in materials or grouping arrangements or specialized adaptations such as co-teaching, accommodating the curriculum, and universal design approaches. Although such approaches offer frameworks for considering ways to foster student engagement by presenting information in multiple ways and accommodating multiple means of student action and expression, they offer less guidance in considering how to systematically coordinate and address multiple students' individual skill needs.

As highlighted by Fuchs and Fuchs (2016), intervention within a multi-tiered approach is provided by specialists who apply different skills with different students. Tier 2 intervention is delivered by a specially trained practitioner in a different manner than universal practices provided in Tier 1, addressing specific skill needs with greater frequency and duration. Within this framework, Tier 3 intervention is further individualized and intensified by highly trained specialists to match individual needs identified by student data.

Provision of evidence-based and specialized instruction/intervention Although the use of assessments, data-based decision rules, and a multitiered system of support is critical for guiding instructional practices, it is the instructional practices and interventions themselves that are primarily responsible for advancing student performance. Within an RTI service delivery framework, provision of instruction and interventions with demonstrated evidence of their effectiveness increases the likelihood that students are granted access to the most appropriate form of support (e.g., Fuchs & Fuchs, 2006; Glover & DiPerna, 2007).

In contrast to commonly advocated inclusionary practices that focus primarily on the receipt of instruction in inclusive settings that expose students with and without significant learning difficulties or disabilities to the same educational content (e.g., co-teaching, push-in instruction, universal design for learning), student support within an RTI framework focuses on the provision of specialized interventions matched to students' individual skill needs. As Fuchs and colleagues note, neither location nor exposure equates to students' access to or participation in instruction (Fuchs et al., 2015). Within an RTI framework, instruction/intervention is explicit and designed to promote student attention, participation, and motivation through teachers' engagement in direct explanations, modeling, repeated guided and independent practice, regular feedback, and application in multiple contexts to promote transfer of knowledge and skills (e.g., Fuchs et al., 2008, 2015).

Multi-stakeholder involvement in coordinated leadership Finally, the involvement of multiple stakeholders with complementary roles and expertise (e.g., classroom teachers, specialists, and administrators) in systematic and coordinated scheduling and provision of assessment, data-driven decision-making, and instruction and intervention for RTI service delivery promotes greater access to appropriate and high-quality educational practices than has traditionally been afforded by departmentalized and disjointed systems of general and special education. For example, in schools where an administrative leader works with elementary classroom teachers, assessment coordinators, reading specialists, and interventionists to coordinate schoolwide datadriven instruction to students across classrooms and grades based on their individual reading skill needs, the likelihood is increased that students are afforded access to the appropriate reading support (e.g., Parisi, Ihlo, & Glover, 2014).

Organizational Considerations for Promoting Access to High-Quality Instruction for Students

Although core components of RTI service delivery have the potential to promote access for all students to instruction that is matched to their needs, effective implementation of supports for students requires that such components be delivered with fidelity and maintained over time. Unfortunately, given the complexity of training needs and integration of systems of assessment and intervention support, many schools are inadequately prepared for service delivery implementation (e.g., Glover, 2010; Glover, 2017). Fixsen, Blase, and their colleagues (e.g., Fixsen & Blase, 2008) have identified eight key implementation drivers or engines of change necessary for advancing and sustaining new practices and programs: recruitment and staff selection, training, coaching, fidelity/performance assessment, data decision systems, facilitative administrative supports, systems intervention, and adaptive leadership. As noted previously, several of these drivers are core components of RTI service delivery systems. However, five drivers warrant additional attention with respect to their integral role in ensuring that RTI service delivery is effective in promoting access for all students to high-quality instruction: facilitative administrative support, leadership, training, coaching, and fidelity/performance assessment.

Facilitative administrative support and teambased leadership Unfortunately, many schools are ineffective in promoting students' access to high-quality instruction via an RTI service delivery model because they adopt procedures for implementing specific practices without developing fully coordinated and integrated systems. Facilitative administration is needed to ensure that school policies, procedures, structures, and cultures support all students' access to the core components of RTI service delivery (e.g., Fixsen & Blase, 2008; Glover, 2017). For example, in the area of reading, school guidelines and operating procedures could reiterate the need to identify and support all students. To help ensure that students receive appropriate individualized reading intervention, policies and structures (e.g., school scheduling) could be aligned to ensure that reading instruction occurs during a common period across classrooms for students with like skill needs.

Team-based leadership guided by a strong leader that is adaptive in championing the integration of RTI service delivery in the context of barriers (e.g., insufficient training, time) and enablers (e.g., teacher buy-in, data supporting increased student performance) and proficient in managing technical aspects of implementation (e.g., core service delivery components) is also helpful for ensuring that all students are able to access high-quality instruction (e.g., Fixsen & Blase, 2008; Glover, 2017). To meet students' needs, effective team leaders must be able to engage and guide multiple stakeholders (e.g., classroom teachers, specialists, and administrators) in coordinating implementation within and across classroom settings and grade levels. For example, to effectively promote the development of all students' reading skills, team leaders might coordinate multiple interventionists' involvement in small-group instructional sessions targeting specific skills needs (e.g., reading specialist teaching phonics instruction, school psychologists working with students on fluency skills, paraprofessionals teaching reading comprehension strategies).

Professional development via training with job-embedded coaching Student access to high-quality instruction is also greatly impacted by faculty and staff training. Given the complexity of RTI service delivery, school personnel often must acquire new skills related to administration of assessments, data literacy, student instructional grouping, intervention selection and provision, and the measurement of students' progress. In addition to receiving workshopbased foundational training, job-embedded coaching has been found to increase the knowledge, skills, and perceived self-efficacy of school personnel implementing RTI service delivery. For example, Glover and Ihlo (Glover, 2017; Glover & Ihlo, 2015) found that relative to personnel in schools where no coaching was provided for RTI service delivery, teachers and interventionists who received regular coaching in the application of data-based decision-making and provision of a toolkit of research-based reading interventions exhibited higher-quality data-driven intervention decisions, resulting in greater performance benefits for students with a variety of significant reading skill needs.

Implementation fidelity assessment Finally, regular monitoring of the fidelity of RTI service delivery implementation is needed to determine whether students are able to access the support that they need. Formative use of implementation data on each service delivery component (e.g., assessment, data-based decision-making, intervention provision, etc.) is useful for identifying gaps in deploying student supports. For example, in the area of early reading, monitoring the consistency with which data-based decision rules are applied is helpful for uncovering whether students' needs are correctly being identified, and monitoring intervention implementation is important for determining whether all students are pro-

dents needs are correctly being identified, and monitoring intervention implementation is important for determining whether all students are provided with the instruction that they require. Within a RTI service delivery framework, consideration of implementation fidelity in addition to student performance is critical for determining whether to continue an existing instructional practice (e.g., when there is high fidelity and positive student growth), encourage better implementation (e.g., when there is low fidelity and limited student growth), or change or modify the instructional approach (e.g., when there is high fidelity and limited student growth) (e.g., Parisi et al., 2014).

Promoting Student Access Via RTI Service Delivery: State of the Research

Existing research on components of RTI service delivery (e.g., research on student screening and progress monitoring, the application of data-based instructional decisions, and the impact of multitiered intervention supports) provides valuable insights about the utility of this framework for promoting students' access to high-quality instruction. However, additional investigations are also needed to determine how to ensure that (a) accessibility is afforded to *all* students and (b) schools have adequate capacity to implement service delivery with fidelity and maximal opportunities for impact.

Existing research support Existing research on screening and progress monitoring to guide instructional decisions, the impact of multi-tiered

intervention supports, and training supports for school personnel in the implementation of assessment and intervention practices provides an emerging empirical basis for the effectiveness of RTI service delivery in increasing students' access to appropriate instruction.

Research on screening and progress monitoring to guide instructional decisions As Fuchs and Fuchs (2006) noted, over 200 empirical studies provide evidence of the reliability and validity of curriculum-based measurement (CBM), the approach utilized by most screening and progress monitoring assessments of academic skills within an RTI service delivery framework. In contrast to other forms of standardized assessment (e.g., standardized achievement tests, classroom observations), CBM-based screening and progress monitoring approaches focus on assessing student performance on discrete skills over time. CBM approaches have been found to be especially useful for investigating the performance of students with intensive needs for whom other forms of measurement would not be adequately sensitive to changes in performance (Fuchs, Compton, Fuchs, & Bryant, 2008). The sensitivity and specificity of CBM approaches in assessing early reading have received considerable research attention (Ardoin, Christ, Morena, Cormier, & Klingbeil, 2013; Fuchs, Fuchs, & Compton, 2004; Jenkins, Hudson, & Johnson, 2007).

Although research on the impact of specific accommodations for CBM approaches within an RTI framework is in its infancy, CBM approaches have been used to reliably assess specific skill needs of students both without and with disabilities, including students with specific learning disabilities and intellectual and cognitive disabilities (e.g., Allor, Mathes, Roberts, Jones, & Champlin, 2010; Deno, Fuchs, Marston, & Shin, 2001; Lemons et al., 2013; Tindal et al., 2003). By determining appropriate assessment approaches and expected rates of growth for those with and without disabilities for specific skills, such studies have been instrumental in providing evidence for the appropriateness of CBM assessments in guiding instructional decisions for students with a wide variety of needs.

Research on the impact of multi-tiered intervention supports Additional research has investigated the performance of students (including those with disabilities) who have received instruction within specific tiers of intervention, especially in the area of early reading (e.g., Vaughn, Wanzek, Linan-Thompson, & Murray, 2007). Systematic reviews have found benefits associated with multiple small-group interventions targeting daily skill instruction for students with and without disabilities (e.g., Burns, Appleton, & Stehouwer, 2005; Elbaum, Vaughn, Hughes, & Moody, 2000). Likewise, metaanalytic research in the area of reading has found that intensive, individualized interventions provide performance increases for students with severe learning difficulties and identified learning disabilities (e.g., Burns et al., 2005; Gersten et al., 2009; Kavale & Forness, 2000).

Research on training supports for school personnel Finally, given that students' access to highquality instruction is significantly impacted by school personnel's proficiency in implementing complex assessment and intervention practices with fidelity, research on professional development with job-embedded coaching has begun to emerge. Although training teachers in data-based decisionmaking (e.g., Shapiro, 2016) or the implementation of targeted or individualized interventions (e.g., Vaughn, Linan-Thompson, & Hickman, 2003; Vernon-Feagans, Kainz, Hedrick, Ginsberg, & Amendum, 2013) has been found to benefit early skill development for students with and without disabilities, there have been limited investigations of the approaches required to best support school personnel in promoting students' access to the instruction that they require. A data-driven coaching model investigated by Glover, Ihlo, and their colleagues via a randomized trial (Glover, 2017; Glover & Ihlo, 2015) provides promising evidence in support of the impact of job-embedded professional development with coaching on (a) teachers' fidelity of implementation of RTI service delivery practices in the area of early reading and (b) the performance of students, including those with severe learning difficulties and identified learning disabilities. This coaching model involved support for data-based decision-making, instructional grouping, and the implementation of a toolkit of research-based interventions. Three primary components of this model included (a) an emphasis on the learning environment within teachers' classrooms; (b) enrollment of teachers via modeling, designated opportunities for practice, and feedback; and (c) the use of a formalized data-driven implementation framework for advancing coaching and instructional support. Relative to control participants, school personnel exhibited greater knowledge and application of RTI service delivery practices. Importantly, students with significant academic needs in coached teachers' classrooms benefitted from greater access to individualized interventions and boosts in academic performance in the areas of alphabetic principal and phonics, word attack, and reading fluency.

Additional need for research Despite promising findings from published studies of RTI service delivery components, there is still an ongoing need for additional research. A comprehensive discussion of future research needs for RTI service delivery is provided elsewhere (e.g., Burns et al., 2005; Glover & DiPerna, 2007) and is beyond the scope of this chapter. However, three areas of research are needed to better inform the utility of specific approaches for increasing students' access to appropriate instructional supports-research on (a) decision-making criteria across assessments, (b) interventions for students who persistently do not respond to instruction, and (c) core components necessary for teacher professional development to support high-fidelity service delivery.

Research on decision-making criteria across assessments Although CBM approaches have been used to reliably assess specific skill needs for students both without and with disabilities (e.g., Allor et al., 2010; Deno et al., 2001; Lemons et al., 2013; Tindal et al., 2003), additional work is needed to determine (a) the influence of accommodations for CBM approaches for students with special needs (e.g., assistive technology, extended time, etc.) on assessment validity and (b) variations in expected rates of growth for those with and without disabilities based on specific assessment approaches.

Further, although several approaches to data-based decision-making for determining students' skill needs and responsiveness to intervention have been found to be useful, the decisions that result from the use of specific measures and decision-making criteria vary substantially. For example, in the area of early reading, Fuchs and colleagues (Fuchs, Compton, et al., 2008) found that the percentage of students identified as not responding to Tier 2 intervention differed depending upon the decision-making criteria used. For example, in a study contrasting methods, they found that a dual discrepancy method (whereby the rate and level of student performance are taken into account) yielded 8.6% of students, a slope discrepancy approach (whereby a students' rate of progress is compared to a normative cut score) yielded 7.6% of students, and normative postintervention decisions yielded 4.2% of students. This variation is of significant concern, because it demonstrates inequities in the identification of students' instructional responsiveness. Additional research is needed to compare alternate approaches with respect to their utility in determining students' response to intervention, to ensure that they are afforded access to the right instructional supports. This research will require that common criterion measures be used to investigate psychometric properties (e.g., sensitivity and specificity) and that common decision-making criteria (e.g., duel discrepancy, slope discrepancy) be applied across assessment approaches.

Research on interventions for unresponsive students Although, overall, the RTI service delivery framework holds great promise with respect to systematically identifying needs of all students and providing a continuum of need-based supports, additional research is needed to investigate intervention alternatives for those who do not respond to intervention, including some students with significant disabilities. Fuchs and colleagues (e.g., Al Otaiba & Fuchs, 2002; McMaster, Fuchs, Fuchs, & Compton, 2005) identified variables associated with unresponsiveness in the area of reading, such as phonological awareness encoding problems, phonological memory difficulties, and/or attention or behavior concerns. In addition, they and others (e.g., O'Connor, 2000) have examined the influence of multiphased interventions that increase in intensity to maximize students' response. These studies have resulted in mixed results; additional research is needed to determine how to best meet the need of select students for whom existing interventions are ineffective.

Research on core components of teacher professional development Finally, although emerging research supports the impact of accompanying workshop-based professional development with job-embedded coaching support for school personnel (e.g., Glover, 2017), very little is known about required aspects of the coaching process. Future research is needed to determine the influence of specific components of coaching on students' (a) access to appropriate instruction and (b) academic performance. Additional experimental studies should explore variations in coaching to determine which components are vital for producing the desired benefits for students.

Evidence-Based Resources for Promoting Access to High-Quality Instruction and Intervention Supports

Although research continues to evolve, there are now substantial resources available to support school personnel in implementing RTI service delivery practices that promote access for all students to high-quality instruction and intervention. In addition to presenting a comprehensive overview of core service delivery components, the National Center on Response to Invention website (www.rti4success.org) provides information on numerous research-based implementation considerations. An implementation checklist and rubric are also available from this website which can be used to monitor the integrity of RTI service delivery to ensure that key components of service delivery are provided to promote high-quality and equitable data-based instructional decisions and intervention implementation for all students.

The National Center on Intensive Intervention website (http://www.intensiveintervention.org/) also provides access to extensive resources on data-driven approaches for providing intensive intervention matched to students' specific needs. The website houses many practical implementation tools and charts for evaluating the quality of assessment tools and data-based decision criteria and intervention effectiveness.

Additional resources are now available to assist school personnel in the selection and implementation of appropriate interventions. For example, the Florida Center for Reading Research website (http://www.fcrr.org/) provides access to access to numerous free intervention materials, along with guides to assist with determining for whom various activities are appropriate. Likewise, student assessment and intervention guides and materials from the Path to Reading Excellence in School Site (PRESS) reading intervention framework can be ordered for a reasonable cost from the Minnesota Center for Reading Research (http://www.cehd.umn.edu/reading/). website The Technical Assistance Center on Positive Behavioral Interventions and Supports website (https://www.pbis.org/) also provides a comprehensive set of resources on data-driven approaches for supporting positive student behavior. The website houses practical tools such as implementation checklists and intervention guides that can assist school personnel in promoting students' access to appropriate behavioral supports.

Closing Considerations

Despite the need for ongoing research on RTI service delivery approaches that promote students' access to high-quality instruction and intervention, an emerging database of empirical evidence suggests that components of an RTI service delivery framework hold great promise with respect to identifying students' individual needs and implementing practices that increase the likelihood of their success. It is hoped that this chapter's focus on service delivery components and organizational considerations for promoting access to high-quality instruction will present a useful context for considering the utility of RTI service delivery in meeting students' needs. Further, it is hoped that the research discussion provided herein will help to provide a framework for critically considering aspects of implementation. As indicated by an abundance of research and available implementation resources, there is a reason to be optimistic about students' access to appropriate supports within an RTI service delivery framework.

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