Handbook of Response to Intervention in Early Childhood

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Response to Intervention

Conceptual Foundations for the Early Childhood Field

Virginia Buysse and Ellen S. Peisner-Feinberg

Response to intervention (RTI) is a comprehensive and systematic approach for using assessment in instructional decision making that has captured the attention of educators, researchers, and policy makers (Burns & Gibbons, 2008; Eisenman & Ferretti, 2010; Glover & Vaughn, 2010; Haager, Klinger, & Vaughn, 2007; Jimerson, Burns, & VanDerHeyden, 2007; Pina & Eisenberg, 2009). The approach is gaining widespread acceptance in kindergarten through Grade 12 in the majority of states, with some evidence that these activities have begun to extend down to prekindergarten (pre-K), according to a recent report by the U.S. Department of Education (Bradley et al., 2011). RTI represents both an important current educational innovation being implemented in school districts throughout the United States and a mechanism for achieving broader educational reforms in the future. Indeed, no practice has generated as much recent attention as RTI for its ability to accommodate students with widely varying learning needs, including students who are high performing, students who are academically or behaviorally behind, and students who have specific learning disabilities in reading, writing, and math. With its emphasis on monitoring student progress in learning, RTI is a logical extension of both the evidence-based practice movement and more recent educational reforms focused on measuring teacher effectiveness in relation to student achievement (Sawchuk, 2012). At the same time, it is important to recognize that there is considerable variation in exactly how RTI is implemented in K–12 education, along with different perspectives among educators and scholars about the purpose and nature of RTI (Fuchs, Fuchs, & Stecker, 2010; see also Chapter 3 in this volume). Despite the widespread popularity of RTI in K–12, Fuchs and his colleagues noted its heavy demand on practitioners and the need for a comprehensive, coordinated service delivery system to implement RTI successfully (Fuchs, Fuchs, & Compton, 2012). These authors also advocated for a shift to something they referred to as "Smart RTI" in the future, which they defined as having three features: multistage screening to identify students at risk for learning difficulties, multistage assessment to determine appropriate levels of tiered instruction, and new roles for special educators focused on prevention as well as intervention.

The use of RTI to support learning and development for children prior to kindergarten has sparked widespread interest in early childhood (Greenwood et al., 2011). However, the early childhood field is at an early stage in understanding how RTI can complement existing practices for children from birth to age 5.

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Furthermore, the field is only beginning to gather research evidence on RTI to guide its implementation and evaluate its effectiveness with this age group. A summary of eight listening sessions on RTI facilitated by the National Professional Development Center on Inclusion (NPDCI) revealed considerable variability in people's familiarity with this approach and their understanding of how it was designed to work in early childhood. (For more information, go to http://npdci.fpg.unc.edu/resources/articles/RTI-EC [NPDCI, 2012].) Many participants indicated that they had never heard of RTI, whereas others stated that although they understood RTI, their programs had not yet implemented the approach. Relatively few reported that programs in their communities had adopted RTI or had begun to implement the approach with children prior to kindergarten.

Despite being an unfamiliar practice to many who work with young children, RTI represents a major innovation in K–12 education—one that is having reverberating effects throughout the early childhood field (Greenwood et al., 2011). On the one hand, the innovation stems from the shift away from the traditional model of waiting until students fail repeatedly in the early grades before they are determined to be eligible for special education (i.e., the wait-to-fail or IQ-achievement discrepancy model) to one that involves intervening within the general education program as soon as students' learning difficulties become apparent (i.e., the early intervening or prereferral model). More broadly, RTI is now widely viewed as a way to improve teaching and learning for all students and is not limited to benefitting only those who receive special education or those who require additional instructional supports prior to referral for these services. The use of differentiated instruction based on demonstrated need disrupts the status quo in which general and special education have existed as separate systems—one serving the general population of students, the other serving students with identified disabilities, and both inadequately addressing the needs of students considered at risk for learning difficulties who fall somewhere between the two groups.

Just as in the public schools, there is a pressing need in the early childhood field to customize teaching and learning to address the needs of an increasingly diverse population of young children and families (Buysse & Wesley, 2010). The notion that general education teachers can apply targeted interventions derived largely from special education turns the traditional general-special education dichotomy on its head. Further evidence that RTI represents a disruptive innovation in K–12 education can be traced to the defining features that have been used to identify similar innovations in other fields, as identified by Christensen and his colleagues (Christensen, Horn, & Johnson, 2008). These features include the way RTI's assessment and instructional components fit and work together and its implementation in noncompeting contexts, often with grant funding for innovations outside traditional educational structures.

Although early childhood education is not as far along as the K–12 education field in adopting RTI, there are several reasons why the time is ripe for a comprehensive edited volume on this topic. First, the instructional principles that serve as the foundation for RTI are consistent with those widely acknowledged in early childhood, namely, the emphasis on high-quality curriculum and instruction and the importance of early intervening using research-based practices. Second, the world of practice has moved to embrace RTI and many early educators will not wait until all of the empirical evidence has been accumulated before implementing

practices that are believed to improve early education for all children. The field needs a reliable source of information and research-based knowledge on RTI as practitioners begin to define and implement these practices in early childhood programs. Third, and perhaps most important, there is now a body of evidence on the effectiveness of RTI with school-age children and emerging evidence on its effectiveness for pre-K children (Burns, Appleton, & Stehouwer, 2005; Buysse & Peisner-Feinberg, 2009; Gersten et al., 2008, 2009).

One indication that the early childhood field is already moving in this direction is the widespread interest in tiered models of instruction, including the development of specific models such as Recognition & Response (R&R), the Pyramid Model, and Building Blocks (see Chapters 5, 6, 7, and 17), along with research-based tiered interventions linked to formative assessment tools developed by the Center for Response to Intervention in Early Childhood (CRTIEC; see Chapter 27). Organized by instructional intensity and matched to children's learning needs, these models collectively reflect some (if not all) of the defining components of RTI and indicate a commitment to help every child learn, including those with learning or behavioral difficulties, those with disabilities, and those from diverse cultural and linguistic groups (Chapters 22 and 23).

Another indicator of RTI's influence in early education can be found in guidance offered by a major professional organization suggesting that early educators rely more heavily on assessment data to improve instruction and better address children's academic learning needs (American Federation of Teachers, 2011). In a report published by the Rand Corporation, five approaches were identified for incorporating assessments of child functioning within state Quality Rating and Improvement Systems (QRISs), including two in which the purpose was defined as "to inform caregiving and instructional practice with individual children" (Zellman & Karoly, 2012, p. xiii). The fact that these recent recommendations reflect key tenets of RTI, but were not attributed to RTI, is perhaps a sign that RTI principles and practices are gaining wider traction and cachet in the field of early child care and education.

Both the widespread implementation of RTI throughout the nation and its more recent emergence as a promising practice for early childhood suggests that the approach warrants further serious consideration. At the same time, a number of questions about the use of RTI in early childhood have emerged within the field—what practices define RTI, who implements it, which children and families are affected, who benefits, and how does RTI fit within existing practices and programs?

The purpose of this text is to bring together the best thinking and current research-based knowledge on RTI to begin to address these questions. This chapter provides an overview of RTI and sets the stage for subsequent chapters focused on the assessment and instructional components, program-level supports, and the infrastructure that underpins an RTI approach. This volume attempts to bridge the gap between theory and practice by examining the current evidence base and practical strategies related to implementation, as well as offering recommendations for next steps and future directions. In this chapter, we outline the origins of RTI and define its key components, summarize the best available research evidence on RTI, and describe some of the challenges and issues related to implementation of RTI in early childhood.

ORIGINS OF RESPONSE TO INTERVENTION

The origins of tiered instructional approaches in early childhood can be traced directly to conceptual models of RTI for school-age students (National Center on Response to Intervention, 2010), and prior to that, to a classification model addressing primary, secondary, and tertiary prevention within public health (Chapter 2; see also Gresham [2011] for a comprehensive discussion on the history and origins of RTI). Figure 1.1 shows the parallel organizing frameworks for the public health prevention classification scheme and school-based RTI model. Organized by level of instructional intensity and representing a continuum of interventions and supports, RTI links students' formative assessment results with specific teaching and intervention strategies.

Although original conceptualizations of RTI focused on applications to academic learning, RTI applications show similarities in logic to models focused on positive behavior supports (PBS; also called positive behavior interventions and supports [PBIS] and schoolwide positive behavior support [SW-PBS]; Epstein, Atkins, Cullinan, Kutash, & Weaver, 2008; Malecki & Demaray, 2007; Sprague, Cook, Browning-Wright, & Sadler, 2008; Sugai, 2009). With its foundations in applied behavior analysis and its origins in developing alternative practices for students with significant disabilities within special education, the PBS approach has expanded in recent years to focus on the prevention and early detection of behavior problems among the general population of students served in public education and other contexts (e.g., juvenile justice). The National Center on
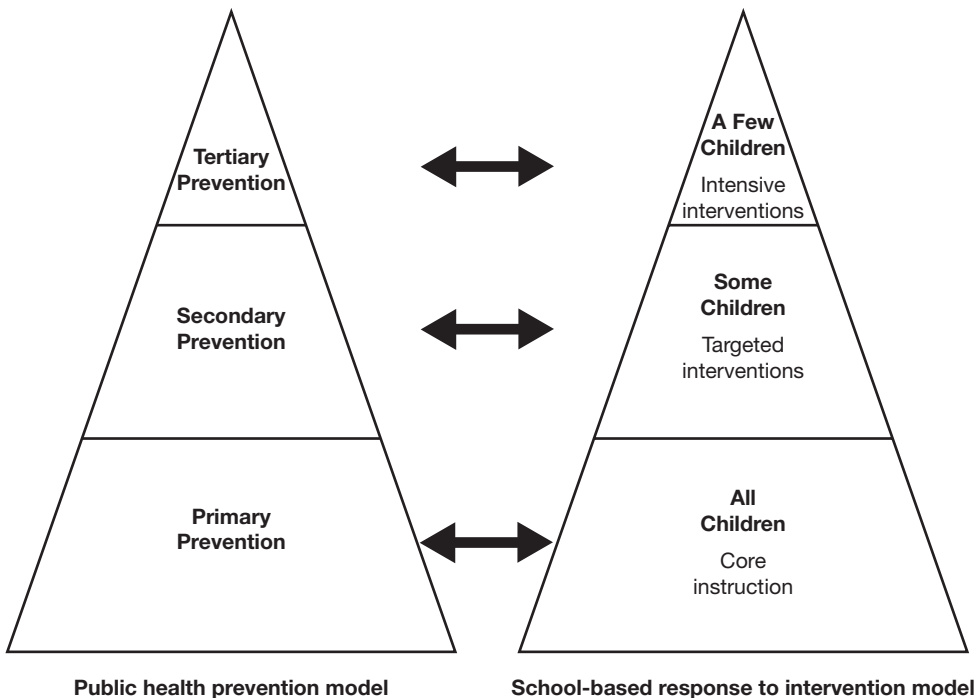
Figure 1.1. Conceptual frameworks for public health prevention and school-based response to intervention models.

Positive Behavioral Interventions and Supports (http://www.pbis.org; Sugai, 2009) has acknowledged the conceptual relationship between educational practices addressing behavior and academics within an integrated model as illustrated in a side-by-side comparison of PBS and RTI, although it has not indicated how such an integrated approach would be implemented within classrooms and programs. Figure 1.2 depicts a side-by-side comparison of RTI and PBS. An integrated RTI model in which teachers can screen for problems and provide tiered interventions to address both domains within the same framework ultimately would be most beneficial, because students often exhibit co-occurring difficulties in both academic learning and behavior, and teachers likely would find it difficult to implement multiple tiered models simultaneously. However, an integrated tiered approach has not been clearly specified in the literature, nor has an integrated approach been validated through research.

Federal policies explicitly addressing the use of RTI with children prior to kindergarten do not exist (Chapter 24). However, in 2010, the Office of Special Education Programs (OSEP) of the U.S. Department of Education issued informal guidance in a memorandum to state directors of special education on the use of RTI with 3- to 5-year-old children with respect to eligibility decisions, referrals for evaluation, and parental rights (http://www2.ed.gov/policy/speced/guid/idea/memosdcltrs/osep11-07rtimemo.pdf). The guidance from OSEP stemmed largely from confusion within Head Start about whether and how RTI should be used to determine eligibility for special education of individual children enrolled in Head Start programs. The OSEP guidance did not address broader questions about the use of RTI with children who may not be eligible for special education services but who potentially could benefit from an RTI approach prior to kindergarten.
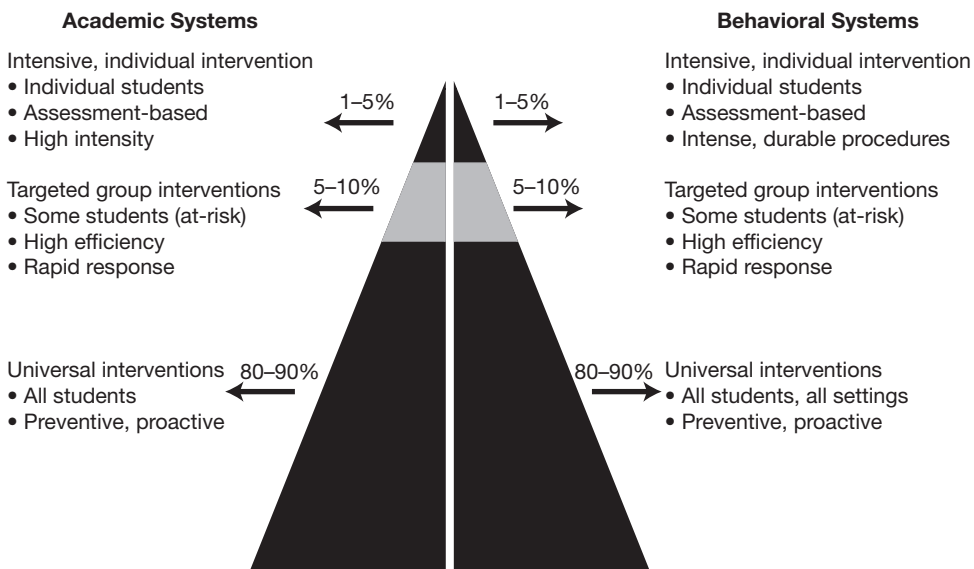
Figure 1.2. Integration of academic and social behavior: Three-tiered continuum of behavior support. (From G. Sugai, Center on Positive Behavioral Interventions & Supports; reprinted by permission.)

For school-age students in kindergarten through Grade 12, federal policies and a position statement published by the Council for Exceptional Children (2008), along with many other resources, guide the use of RTI in schools. The Individuals with Disabilities Education Improvement Act (IDEA) of 2004 (PL 108-446) includes two specific provisions on RTI. These provisions (Sections 613 [f][1] and 614[b][6]) allow local school districts to use RTI as an alternative method for identifying students with learning disabilities, and more important, state that students may be determined to have a specific learning disability on the basis of how they respond to research-based interventions (IDEA 2004).

SEC. 613. LOCAL EDUCATIONAL AGENCY ELIGIBILITY.

(f)　EARLY INTERVENING SERVICES.—

(1)　IN GENERAL.—A local educational agency may not use more than 15 percent of the amount such agency receives under this part for any fiscal year, less any amount reduced by the agency pursuant to subsection (a)(2)(C), if any, in combination with other amounts (which may include amounts other than education funds), to develop and implement coordinated, early intervening services, which may include interagency financing structures, for students in kindergarten through grade 12 (with a particular emphasis on students in kindergarten through grade 3) who have not been identified as needing special education or related services but who need additional academic and behavioral support to succeed in a general education environment.

SEC. 614. EVALUATIONS, ELIGIBILITY DETERMINATIONS, INDIVIDUALIZED EDUCATION PROGRAMS, AND EDUCATIONAL PLACEMENTS.

(b)　EVALUATION PROCEDURES.—

(6)　SPECIFIC LEARNING DISABILITIES.—

(A)　IN GENERAL.—Notwithstanding section 607(b), when determining whether a child has a specific learning disability as defined in section 602, a local educational agency shall not be required to take into consideration whether a child has a severe discrepancy between achievement and intellectual ability in oral expression, listening comprehension, written expression, basic reading skill, reading comprehension, mathematical calculation, or mathematical reasoning.

(B)　ADDITIONAL AUTHORITY.—In determining whether a child has a specific learning disability, a local educational agency may use a process that determines if the child responds to scientific, research-based intervention as a part of the evaluation procedures described in paragraphs (2) and (3).

PBS also is supported by specific policies within IDEA 2004. In the most recent reauthorization of IDEA, PBS was referenced multiple times (for a more comprehensive discussion, see Sanetti & Simonsen, 2011) as a way of improving the quality of behavior supports provided to all students enrolled in public education, with a particular focus on the importance of this improvement for students with disabilities. These provisions within IDEA on PBS address issues that range from funding, to the use of suspension and expulsion rates in evaluating its effects, to professional development and the role of teachers in implementing this approach.

DEFINING FEATURES OF A RESPONSE TO INTERVENTION APPROACH

Although a number of variations of the RTI model have been proposed (see Fuchs, Fuchs, & Compton, 2007; Marston, Muyskens, Lau, & Canter, 2003; Speece, Case, & Molloy, 2003; Vaughn & Fuchs, 2003; Vaughn, Linan-Thompson, & Hickman, 2003), RTI is generally based on three common components: 1) systematic assessment of students' level and rate of performance, 2) scientifically based core programs and interventions, and 3) carefully defined instructional decision-making criteria. RTI generally is conceptualized as a three-tier model that corresponds to the three levels of prevention within the public health framework: core instruction (primary prevention), targeted interventions (secondary prevention), and intensive, individualized interventions (tertiary prevention). The targeted interventions may be based on standardized treatments that have been validated through research, on a problem-solving process involving the systematic analysis of instructional variables on a case-by-case basis (Fuchs, Fuchs, & Stecker, 2010; Gresham, 2011), or, as recommended by Gresham (2007), a combination of the standard treatment and problem-solving approaches.

As mentioned previously, RTI is an emerging practice in early childhood and there are few policies and little information to guide its use with children prior to kindergarten. In response to this need, and with input from national experts and key stakeholders, the National Professional Development Center on Inclusion (NPDCI) released a concept paper in 2012 in which RTI in early childhood was closely aligned with broader RTI principles and the literature (NPDCI, 2012; see also Chapter 29). Figure 1.3 shows the continuum of instruction, interventions, and
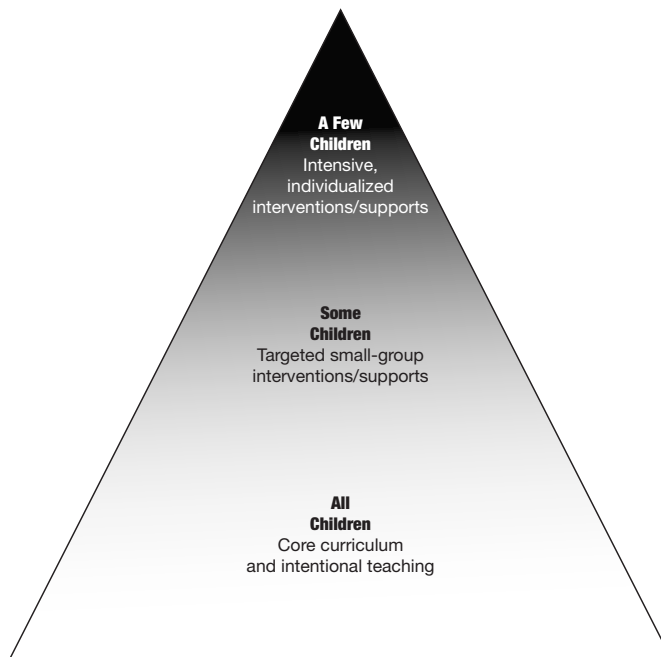
Figure 1.3. The continuum of instruction and interventions/supports within response to intervention in early childhood. (From National Professional Development Center on Inclusion [2012]. *Response to Intervention [RTI] in early childhood: Building consensus on the defining features.* Chapel Hill: University of North Carolina, Frank Porter Graham Child Development Institute; reprinted by permission.)

supports within a generic RTI model for early childhood as depicted in the NPDCI concept paper. The concept paper offered the following explanation for thinking about the meaning of RTI in early childhood:

RTI is a framework that can be used in early childhood to help practitioners connect children's formative assessment results with specific teaching and intervention strategies. RTI is designed to improve instructional practices for all children and includes both foundational instructional practices as well as the provision of additional supports for children with varying learning needs such as children with learning difficulties, children with challenging behaviors, children who are dual language learners, and children with disabilities. The key components of an RTI approach in early childhood are: 1) formative assessment, 2) instruction and tiered interventions/supports, and 3) collaboration and data-based decision making. (NPDCI, 2012)

Formative Assessment

According to the NPDCI concept paper, assessment within RTI is defined as follows:

Information is gathered on children's behavior and skills and used to inform instructional decisions. To guide decisions regarding the effectiveness of instruction and children's responsiveness to interventions, formative assessment should reflect measurable and relevant learning goals for young children. Universal screening and progress monitoring are particular types of formative assessment used within RTI. Universal screening involves gathering information periodically on *all* children in a classroom or program to monitor their development and learning, and to determine whether *some* children might need additional interventions to acquire key skills in academic learning or behavior regulation. Progress monitoring is designed to gather additional information on the children who receive targeted interventions to determine children's responsiveness to these interventions. (NPDCI, 2012)

Instruction and Tiered Interventions

NPDCI defined the instructional component as follows:

An effective core curriculum and intentional teaching are the foundation of instructional practices for RTI in early childhood. Intentional teaching means the purposeful organization of the early learning environment and developmentally appropriate learning activities within a comprehensive curriculum to help children develop and acquire important skills. In RTI, the concept of intentional teaching is expanded to include targeted interventions for some children who require additional academic or behavioral supports, generally provided through small-group instruction, embedded instruction/interventions, or individualized scaffolding. Instructional strategies and behavioral supports are arranged by tiers from least to most intensive to show the level of adult involvement needed to help individual children learn. The targeted interventions for some children provide instructional supports in addition to those provided to all children through the core curriculum and intentional teaching. (NPDCI, 2012)

Collaboration and Data-Based Decision Making

Finally, NPDCI defined the decision-making processes within an RTI approach as follows:

RTI includes methods that practitioners can use to collaborate with families, specialists, and others to plan and organize learning and behavioral supports and to assess

how well children are responding to them. Broader, system-level supports such as ongoing professional development, methods for gathering and reporting assessment results, and strategies for documenting and sharing information with families and others also are needed to support an RTI approach. (NPDCI, 2012)

EVIDENCE FOR THE EFFICACY OF RESPONSE TO INTERVENTION

There is little research available on the efficacy of RTI for children prior to kindergarten. However, there is mounting evidence on the efficacy of RTI for improving academic learning of school-age students. Collectively, research findings have indicated that RTI is particularly effective when implemented in the early grades, that it can yield positive learning outcomes, and that it can reduce the need for special education services. A meta-analysis of 24 studies involving school-age children offered evidence of the effects of RTI at both the child and the school level (Burns, Appleton, & Stehouwer, 2005). This meta-analysis concluded that students attending schools implementing RTI demonstrated greater growth in academic skills, more time on task, and better task completion, compared with those attending schools not implementing RTI. Two practice guides published under the auspices of the Institute of Education Sciences (IES), U.S. Department of Education, summarized the research evidence on the effects of RTI for improving the reading and mathematics skills of school-age students, and this information is summarized next.

The Efficacy of Response to Intervention for Improving Reading

With respect to the early primary grades, there is a growing body of evidence on RTI in reading, including the reliability and validity of specific screening and progress monitoring measures as well as data regarding the average growth rates used to gauge the effectiveness of tiered interventions. An IES practice guide summarized empirical support showing that universal screening in reading can aid in predicting children's future performance in this area and that progress monitoring can have a positive effect on teachers' instructional decision making (Gersten et al., 2008). The authors also found strong evidence for the effectiveness of Tier 2 small-group interventions in reading for elementary school students who were identified as at risk for learning difficulties in this area (i.e., scored below the benchmark on universal screening). In contrast, the evidence supporting differentiated reading instruction for all students at Tier 1 was reported to be low.

The Efficacy of Response to Intervention for Improving Skills in Mathematics

There also is a growing body of evidence on RTI in mathematics, including the reliability and validity of specific screening and progress monitoring measures as well as data regarding the average growth rates used to gauge the effectiveness of tiered interventions (Clarke, Gersten, & Newman-Gonchar, 2010; Foegen, Jiban, & Deno, 2007; Fuchs et al., 2005). An IES practice guide summarized empirical support showing that universal screening in math can aid in predicting children's future performance in this area and that progress monitoring can have a positive effect on teachers' instructional decision making (Gersten et al., 2009). The authors also found strong evidence for the effectiveness of targeted interventions in math for elementary

students who were identified as at risk for learning difficulties in this area. The IES Practice Guide offered three recommendations regarding research-based practices to support RTI for improving skills in mathematics: 1) RTI should begin with high-quality instruction and universal screening for all students, with a focus on both prevention and early detection; 2) Tier 2 interventions for targeted children identified through screening should be systematic, explicit, and evidence-based; and 3) student responses to intervention should be measured to determine if adequate progress has been made and to make adjustments to instruction, if necessary.

The Efficacy of Positive Behavior Supports for Improving Social-Emotional Skills

Much of the early research on PBS involved descriptive or quasi-experimental studies involving very small samples of students with disabilities in special education settings (Sanetti & Simonsen, 2011). A few randomized controlled trials conducted in public schools with larger, more broadly representative samples showing positive effects for PBS in reducing recorded problem behaviors and increasing academic achievement have since been cited in the literature (Bradshaw, Reinke, Brown, Bevans, & Leaf, 2008, cited in Sanetti & Simonsen, 2011; Horner et al., 2009, cited in Sanetti & Simonsen, 2011), but additional studies are needed to establish the evidence base for this approach in both K–12 and early childhood education (Sanetti & Simonsen, 2011; see also Chapter 4). Unlike RTI, there is no research synthesis or IES practice guide on PBS available at this time. However, there is an IES practice guide that summarizes the research on the most common types of behavior problems encountered by teachers in public education (Epstein et al., 2008). The IES practice guide reported strong evidence showing that teachers should address these behavior problems by modifying the classroom environment to help students stay on task, teaching students the appropriate behaviors, and managing consequences to reinforce these "replacement" behaviors—all of which is consistent with several key practices within PBS.

THE STATE OF KNOWLEDGE ABOUT RESPONSE TO INTERVENTION IN EARLY CHILDHOOD

The early childhood field is only beginning to gather research evidence on RTI to guide its implementation and to evaluate its efficacy with children prior to kindergarten (Chapters 27 and 28). However, research-based knowledge on RTI in early childhood is expected to become more widely available in the next several years. In addition to the work being conducted by the Center for Response to Intervention in Early Childhood (CRTIEC), several research studies funded by IES (U.S. Department of Education) are underway to evaluate specific RTI applications in pre-K.

It is not surprising, then, that the literature on RTI prior to kindergarten is scant at best, and some of these publications reflect ideas that lack clarity or are inconsistent with broader RTI concepts. A search of the literature from 2006 to 2011 using search terms related to RTI and early childhood in Academic Search Premier, PsycArticles, and PsycINFO turned up only a handful of articles in peer-reviewed journals (e.g., Barnett, VanDerHeyden, & Witt, 2007; Bayat, Mindes, & Covitt, 2010; Buysse & Peisner-Feinberg, 2010; Fox, Carta, Strain, Dunlap, & Hemmeter, 2010;

Greenwood et al., 2011; Hemmeter, Ostrosky, & Fox, 2006; Jackson et al., 2009; Koutsoftas, Harmon, & Gray, 2009). Although this effort was not intended to be an exhaustive review of the literature on RTI in early childhood, the search results are one indication of the state of knowledge on this topic. All but one of the articles identified consisted of descriptions of particular models of RTI in early childhood or broader overviews or conceptualizations of how RTI is designed to work in pre-K; however, little congruity was evident among these various depictions of RTI. Perhaps as a sign of the interest on this topic and despite the limited research, the topic of RTI in early childhood is beginning to emerge in edited volumes and college textbooks and was featured prominently in many of the articles published in two special issues of the *NHSA Dialog*: one focused on language and literacy instruction, the other on behavioral supports (Frey, 2009; Smith, 2009).

Several models of RTI have become the most familiar and widely used RTI approaches in early childhood education (Greenwood et al., 2011). These are briefly described next; subsequent chapters in this book discuss them more fully. The Pyramid Model provides explicit guidance on classroom-wide practices that are foundational and prevention-oriented to address children's social-emotional development. It also includes targeted interventions that respond to more persistent needs of some children with respect to regulating behaviors, controlling impulses, focusing attention, and maintaining engagement in learning activities (Chapter 6). Another model called the Teaching Pyramid is part of a social-emotional curriculum called the *Incredible Years* (Chapter 17). Similar to the approach developed by Hemmeter and Fox (Chapter 6), the Incredible Years model includes foundational practices—such as building positive relationships, setting classroom rules, and teaching children emotional literacy skills—as well as more targeted interventions focused on decreasing inappropriate behaviors (e.g., using natural and logical consequences for behavior, creating individualized incentive systems). The Recognition & Response (R&R) model (Chapter 8) addresses academic learning (e.g., language, literacy, math) for young children with varying learning characteristics and includes all of the key RTI components (formative assessment, effective core instruction and research-based tiered interventions, and collaborative problem solving to support data-based decision making). The Center for Response to Intervention in Early Childhood (see Chapters 9 and 27) is developing evidence-based Tier 2 and Tier 3 interventions for language and literacy linked to specific universal screening and progress monitoring tools for use within an RTI framework in early childhood. Figures 1.4 and 1.5 depict these RTI models for use in early childhood.

Across all of these models, the primary emphasis is on helping early childhood educators organize the way in which they conduct assessments and deliver instruction and targeted interventions so as to respond effectively to children's learning and behavioral needs. In RTI, the formative assessment component differs from the way in which assessment typically is used in early childhood programs (Chapters 8, 9, 10, and 11). Unlike the way in which most standardized assessment tools currently are used in early childhood, assessment within an RTI context is designed to be conducted repeatedly throughout the school year and used to measure both *level* and *rate* of growth (i.e., how well a child performs at any given point and the amount of gain in learning over time). These assessments measure specific skills within key domains of behavior and learning that
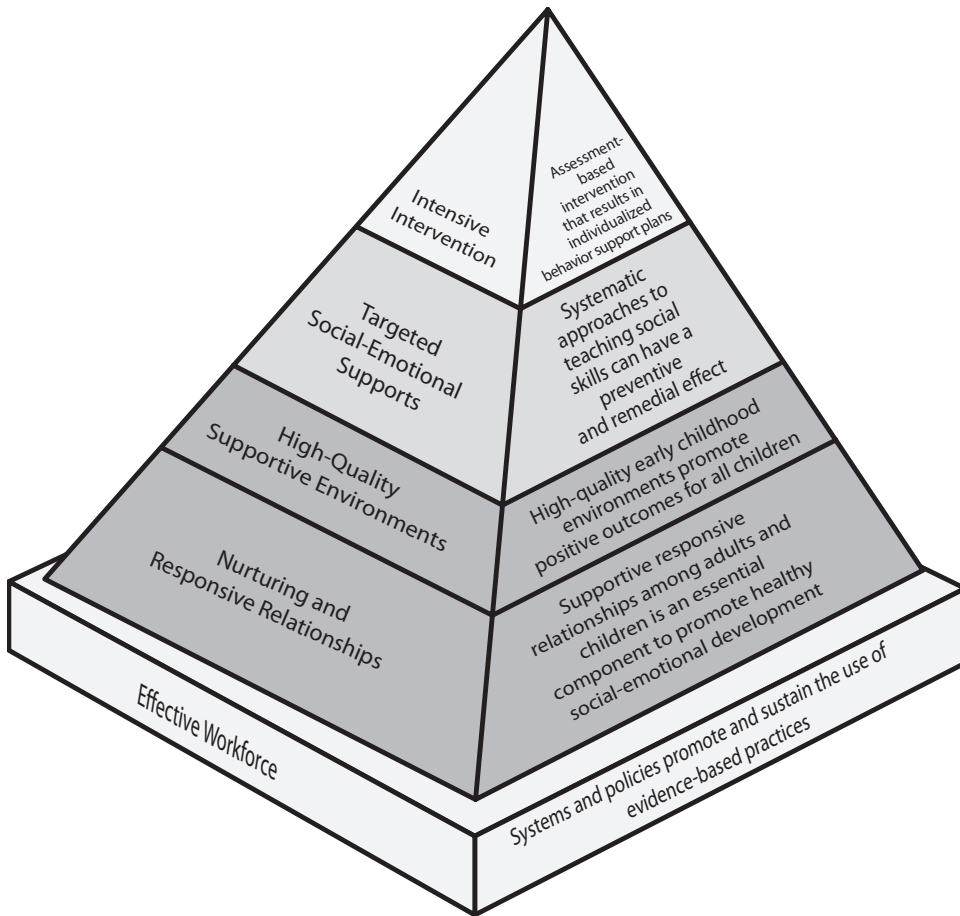
Figure 1.4. Conceptual framework for the Pyramid Model. (From Fox, L., Carta, J., Strain, P.S., Dunlap, G., & Hemmeter, M.L. [2010]. Response to intervention and the pyramid model. *Infants and Young Children*, 23, 3–13; reprinted by permission from http://csefel.vanderbilt.edu/)

predict later school adjustment and academic achievement when children enter kindergarten and the elementary grades.

Determining an appropriate assessment tool for use in universal screening and progress monitoring is a crucial decision in implementing an RTI approach to address academic learning in early childhood, and several tools are now available for this purpose. Unfortunately, as Gresham (2011) noted, there is no analogue for dependably measuring students' response to interventions in the area of social-emotional behavior in conjunction with PBS. Gresham's observation also applies to tiered models addressing social-emotional development in early childhood. However, several methods have been proposed to measure short-term changes in students' social-emotional behaviors in the context of PBS, and work is underway to adapt and validate some of these methods for use in early childhood.

The foundation of all tiered approaches involves providing a high-quality, effective core curriculum and intentional teaching of key school readiness skills, addressing both academics and social-emotional development (Chapters 13, 14, 15,
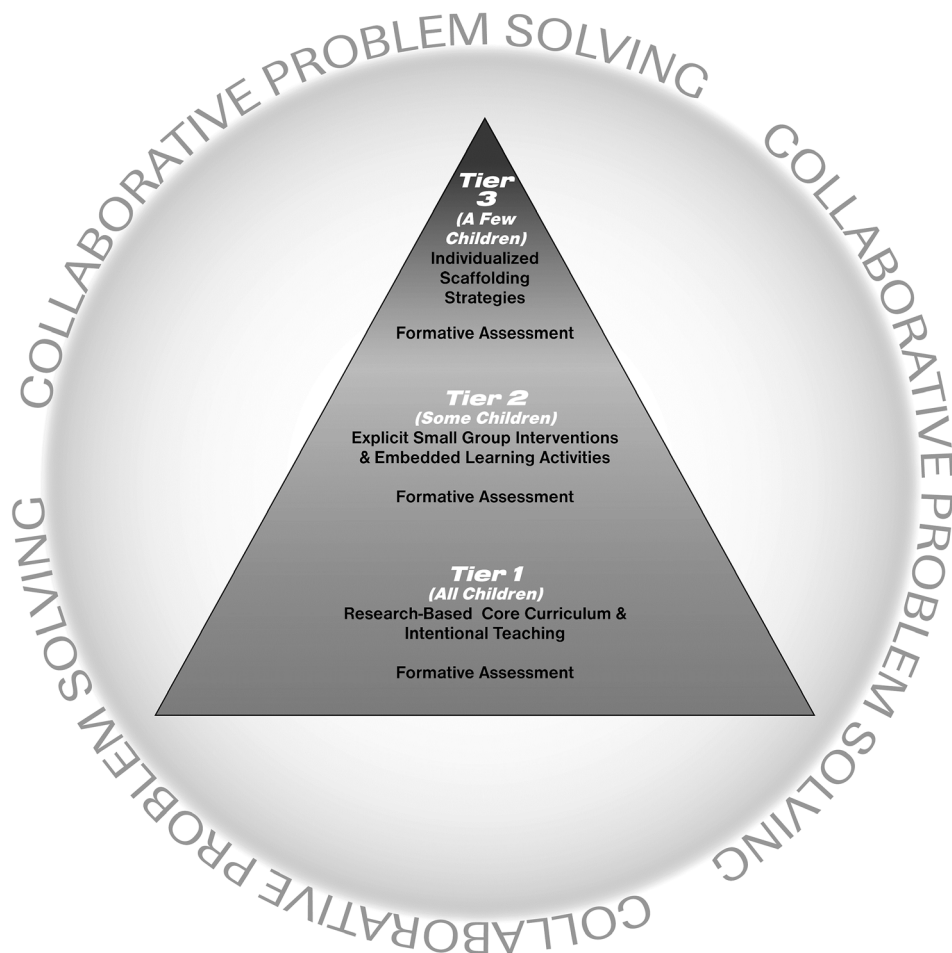
Figure 1.5. Conceptual framework for the Recognition & Response model. (Copyright © 2011 by Virginia Buysse and Ellen S. Peisner-Feinberg. Reprinted by permission.)

16, and 17). Tiered interventions and supports are layered on top of this foundation of teaching and learning to help practitioners make adjustments to their instruction for *some* children who require additional supports to learn beyond the general curriculum and classroom activities provided for *all* children at Tier 1 (Chapter 18). In contrast to K–12 education, the early childhood field faces several significant challenges in implementing the instructional component of an RTI approach. As Greenwood and colleagues (2011) observed, there is far less consensus prior to kindergarten on what to teach and how to teach key skills than there is in K–12 education; this applies both to the foundational level of instruction (i.e., the core curriculum) and to the content and methods for the tiered interventions and supports. Whereas research-based core curricula and standardized, research-based interventions are widely available for use within an RTI context in K–12 education, these resources are limited or nonexistent in early childhood education, posing significant challenges for implementing RTI and establishing its efficacy

prior to kindergarten. For example, the Preschool Curriculum Evaluation Research (PCER) initiative found that only 2 of 14 early childhood curricular interventions (one addressing language and literacy, the other mathematics) showed positive effects on child-level outcomes in the pre-K year (Preschool Curriculum Evaluation Research Consortium, 2008).

Efforts aimed at synthesizing research knowledge on academic learning in pre-K have been useful in identifying both foundational content and teaching and learning pathways to promote children's skill development in language, literacy, and mathematics (National Early Literacy Panel [NELP], 2008; Cross, Woods, & Schweingruber, 2009). These findings have reinforced the key principles of RTI—the use of a research-based core curriculum and the need to employ a variety of effective instructional methods at different levels of intensity, including small-group instruction and individualized scaffolding.

ISSUES RELATED TO IMPLEMENTING RESPONSE TO INTERVENTION IN EARLY CHILDHOOD

It is important to acknowledge that the use of RTI with children prior to kindergarten is an emerging practice. The results of one survey of state administrators from 46 states showed that only two states reported that RTI was being fully implemented in pre-K and only a few states reported having explicit statewide polices addressing the use of RTI in pre-K (Linas, Carta, & Greenwood, 2010, cited in Greenwood et al., 2011). Although RTI holds promise for supporting learning and development prior to kindergarten, additional research is needed to provide direct evidence of the efficacy of this approach with younger children and to guide its implementation in early child care and education programs. Because there are no specific provisions within federal legislation, nor policies or guidelines addressing the use of RTI prior to kindergarten, the field faces a number of significant implementation challenges. Next we highlight several issues that perhaps represent the most far-reaching challenges, but we also recognize that there are many others, including those that may be unique to particular states or regions.

Perhaps the most significant challenge that the early childhood field faces is the lack of consensus on the meaning of RTI. Greenwood et al. (2011) identified a number of myths in existence about RTI in early childhood, including that RTI is intended to replace special education and that it necessarily delays referral and eligibility for special education services. In the absence of both research knowledge and consensus wisdom on RTI in early childhood, publications on this topic sometimes contribute to the confusion by disseminating information that is inconsistent with an RTI approach. For example, the *Roadmap to Pre-K RTI* published in 2009 (Coleman, Roth, & West, 2009), though well-intentioned, described several models of RTI implementation that were poor exemplars of this approach (e.g., an example that confused outcome measures with formative assessment, an example that included only the foundational level of instruction but lacked tiered interventions).

As mentioned previously, the concept paper on RTI in early childhood published by NPCDI (2012) was intended to serve as an impetus to move the field forward in reaching agreement on the key concepts of RTI. However, as of 2012, there were no professional standards, guidelines, or consensus statements that define

RTI and broadly describe its use in pre-K. One indication that the early childhood field lacks consensus on components of RTI agreed upon in the broader literature is the confusion surrounding key concepts and terminology. Table 1.1 provides an explanation of concepts and terms related to RTI that are frequently misused within early childhood education. For example, *progress monitoring* and *universal screening*

Table 1.1. Key terms related to response to intervention (RTI) in early childhood

Terms	Explanation
Tiered and multitiered	These terms are used interchangeably within RTI and positive behavior interventions and supports (PBIS) to mean that an instructional or behavior support system is organized by levels of intensity.
Early intervening and early intervention	*Early intervening* within RTI means addressing student learning needs prior to referral for further diagnostic evaluation within special education; *early intervention* in early childhood refers to the Infant-Toddler Program for children birth to 3 with disabilities under Part C of the Individuals with Disabilities Education Improvement Act (IDEA) of 2004 (PL 108-446).
Instruction and intervention	*Instruction* refers to the general curriculum and intentional teaching that *all* children receive as the foundation of RTI; *interventions* refer to targeted instructional or behavioral supports that *some* children receive based on their learning needs as part of a tiered approach.
Learning difficulties and learning disabilities	*Learning difficulties* refer to students who have problems in acquiring key academic or behavioral skills (also referred to as being at risk for learning difficulties or disabilities), whereas *learning disabilities* refer to students who have an identified disability in academics or behavior requiring specialized services under IDEA.
Formative assessment	This term refers to assessment information that is gathered (typically by classroom teachers) on student behavior and skills to guide instructional decisions.
Universal screening and developmental screening	*Universal screening* is a type of formative assessment used within RTI that involves gathering information periodically on all students to determine whether some students need additional interventions. *Developmental screening* as part of a broader assessment system is used to determine whether a student needs further diagnostic assessment.
Progress monitoring	*Progress monitoring* is a type of formative assessment used within RTI to gather additional information on students who receive tiered interventions to determine their responsiveness to these interventions.
Curriculum-based measure and curriculum-based assessment	*Curriculum-based measures (CBMs)* are the basis of universal screening and progress monitoring within RTI. CBMs are brief measures of key skills that are linked to broad learning goals (but not to a particular curriculum), measure level and rate of growth, and predict later achievement. *Curriculum-based assessments* are linked to the learning goals of a specific curriculum.
General outcome measure	This term refers to CBMs in early childhood.
Small groups	*Small groups* within the context of RTI refers to explicit instruction provided to *some* students selected on the basis of their poor performance on specific skills. *Small groups* used more broadly in the context of early childhood represents planned classroom activities as part of foundational instruction that address broad curriculum goals appropriate for *all* students.
Problem-solving and support teams	*Problem-solving* and *support teams* within RTI or PBIS consist of teaching staff, specialists, parents, and administrators who support teachers in planning, implementing, and evaluating core instruction and targeted interventions at the classroom or program level.

are types of formative assessment that have very specific meanings in the context of RTI, but in early childhood education these terms are often used incorrectly (even by scholars and policy makers) to focus on different or more generic aspects of assessment (e.g., confusing universal screening with developmental screening, using progress monitoring to mean universal screening). Other terms such as curriculum-based measures and curriculum-based assessment with origins in K–12 education and special education have led to similar confusion in early childhood. Clearly, it is critical for the early childhood field to reach consensus on the defining features of RTI to create a common framework and shared meaning of key concepts that will serve as the basis for designing professional development and infrastructure supports for implementation.

Another challenge for the early childhood field is determining how RTI will work within existing contexts, including the fragmented nonsystem in which there are multiple programs and initiatives, funding streams, eligibility criteria, program standards, and quality and accountability frameworks (Chapter 25). This is the same challenge that any new educational innovation faces in the early childhood field. However, with respect to RTI, this problem is compounded by the pressing need for systemic supports for implementation (e.g., adoption at the programs versus classroom level, coordination between general and special education, integration with existing program practices, ongoing professional development and support for implementation, the allocation of time and resources for collaboration and problem solving) that will be more difficult to achieve in a field lacking systems-level cohesion. An important issue that the field must resolve in this regard is determining family involvement in the absence of procedural safeguards within RTI—methods of sharing information with families from diverse backgrounds and opportunities for families to participate in data-based decision making in collaboration with early childhood program staff (Chapter 20).

A third significant challenge to implementing RTI in early childhood programs concerns the lack of resources currently available to support this approach. In the context of school-age RTI, as mentioned previously, many more resources are available to support implementation, including technology-based assessment systems (e.g., AIMSweb, mCLASS assessment tools) and a range of validated formative assessment tools and intervention protocols for use within RTI (for information about these resources, see National Center on Response to Intervention, http://www.rti4success.org). Reaching consensus on the meaning of RTI in early childhood is an important initial step in articulating the field's collective wisdom on this topic, but to promote widespread adoption and implementation of RTI, the field needs additional resources to support its implementation on a broader scale. Despite emerging research knowledge on several widely familiar conceptual models of tiered instruction (e.g., the Pyramid Model, R&R), the early childhood field lacks experience with local implementation of RTI outside a research context. A future direction in this regard will be to translate existing conceptual models of RTI into practical implementation models that specify the particular instructional and assessment practices (including the specific tools and resources that can be used), and describe how these practices are implemented and evaluated, along with the necessary systems-level supports for ensuring that professionals are proficient in these practices (Chapter 26).

Some resources for implementing RTI in early childhood are available at this time. As previously mentioned, CRTIEC is developing formative assessment tools aligned with tiered interventions to address language and literacy skills for use within RTI (http://www.crtiec.org). Resources related to specific models of tiered instruction for early childhood (e.g., R&R, the Pyramid Model) are available on the developers' web sites (e.g., http://randr.fpg.unc.edu, http://csefel .vanderbilt.edu, http://www.challengingbehavior.org). Additional resources related to RTI more broadly are disseminated as part of national centers or initiatives (e.g., the National Center on Response to Intervention, the Center on Positive Behavioral Interventions and Supports, the RTI Action Network, the National Center for Learning Disabilities).

According to the NPDCI (2012) concept paper, RTI constitutes a set of related instructional practices, and as a result, a number of decisions must be made to support its implementation in early child care and education programs. Many of these decisions will need to be made at the program level, rather than by an individual classroom teacher, with input from key stakeholders such as administrators, practitioners, and families. NPDCI advises early childhood programs that elect to adopt RTI to establish an implementation team that will engage in a strategic planning process. Some of the important decisions that these teams will need to make are related to determining the context and scope of implementation (e.g., deciding whether to focus on academic learning, social-emotional development, or both; determining the age group of children with whom RTI will be used; choosing whether to implement RTI in a few sites versus more broadly across an entire system). Other decisions include identifying a valid formative assessment approach, determining benchmarks and cut points for decision making, selecting research-based curricula and interventions linked to curriculum goals and program standards, and specifying approaches for professionals and families to engage in collaboration and problem solving. In addition to these decisions, systemic supports are needed to ensure that RTI will be implemented appropriately and is beneficial for young children and families, according to the NPDCI concept paper. These infrastructure supports include providing ongoing professional development and support for implementing RTI, determining methods for sharing information about children's developmental progress with families and professionals, allocating resources related to using RTI, and making provisions for evaluating the implementation and effectiveness of RTI (Chapters 19, 20, and 21).

OVERVIEW OF THIS BOOK

Handbook of Response to Intervention in Early Childhood represents an ambitious undertaking: namely, to gather within a single volume all of the knowledge that exists on a topic that has attracted much attention in recent years. Although each chapter contributes important information on a particular aspect or component of RTI within early childhood, it is abundantly clear that collectively, the chapter contributors (and members of the field at large) are still working toward reaching consensus on a shared understanding of how RTI will function as an integrated system.

In Section I (which consists of this chapter), we presented the purpose for a comprehensive volume on RTI, the history and origins of RTI, and key contextual issues related to this approach in early childhood education. In Section II, scholars

investigate more deeply the foundations of RTI by exploring its origins in public health models of prevention as well as school-age and pre-K models of RTI and PBS addressing academic learning and behavioral supports.

Section III focuses on the assessment component of RTI, with a particular emphasis on available formative assessment tools. The lead chapter offers guidance in creating an integrated assessment system in which formative assessment within RTI would comprise one component of an overall plan. Remaining chapters address content on formative assessment tools for use in early childhood RTI, such as the individual growth and development indicators (IGDIs) and the CIRCLE-Phonological Awareness Language and Literacy System (C-PALLS), as well as tools that can be used to assess behavioral skills and social-emotional development within an RTI or PBS framework. The authors of these chapters reflect the field's leading scholars in the area of formative assessment in the context of tiered approaches in early childhood.

Section IV addresses the instructional component of an RTI system. Written by scholars with expertise in curriculum and instruction, the chapters reinforce the importance of using an effective, comprehensive, core curriculum as the foundation of an RTI approach. Furthermore, the content covers key domains of school readiness in early childhood that can be addressed within RTI: language and literacy, mathematics, and social-emotional development. In addition, this section addresses the ways in which early educators can organize targeted interventions within tiers of an RTI system, drawing on research-based practices such as embedded interventions and individualized scaffolding strategies.

Sections V and VI focus on current and future systems-level supports related to implementing RTI in early childhood programs, with contributions by recognized scholars and practitioners in public policy and program administration, research, implementation science, and professional development. These chapters address the role of public policy and the need for adaptations of RTI for diverse learners, including young children with disabilities and those from diverse cultural and linguistic groups. Also included is information addressing consensus-building efforts, recommended practices from implementation science, next-generation innovations, and ways to build the evidence base for RTI through a systematic program of research.

RTI may offer one of the best opportunities in recent history for the early childhood field to ensure that every child served in an early care and education program, regardless of his or her learning needs, receives customized instruction supported by research-based knowledge and data-based decision making. This book is envisioned as an authoritative, reliable source of information for anyone interested in adopting RTI in early childhood education, yet it represents only an initial step at an early stage in building the evidence base for this educational innovation. Additional research, policies, and resources are needed to guide these practices in the future.

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