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Responsiveness-to-Intervention: A Decade Later

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Abstract

In this introduction to this special issue, "A Decade Later," we provide an overview of the accomplishments as well as the persistent questions surrounding RTI. We organize this discussion within 3 categories: assessment, instruction, and policy. Within each of these sections, we also highlight how the articles in the present special issue expand upon the key issues. Developed initially for the early grades (kindergarten through third grade) and primarily in the area of reading, many- although not all-of these issues speak to the expansion of RTI to address a broader set of academic content areas and the full range of grade levels.

Keywords

responsiveness-to-intervention, learning disabilities prevention, learning disabilities identification

In 2003, when responsiveness-to-intervention (RTI) was still an emerging innovation, we edited a special issue (Vaughn & Fuchs, 2003) in which contributors expressed cautious optimism about the potential for RTI to reduce the prevalence of academic difficulty while enhancing the validity with which learning disabilities (LD) are identified. This optimism was rooted in research literatures that provided some guidance on how to (a) screen for reading difficulty in the early grades, (b) monitor reading and mathematics progress for quantifying response at the elementary school level, and (c) conduct small-group reading tutoring in the primary grades. The caution in that optimism was, however, multiply determined. It included questions about assessment, such as whether brief screens provide a sufficiently accurate basis for placing children into intervention (Speece, Case, & Molloy, 2003), how progress monitoring and other data sources might be used to reliably and validly quantify responsiveness (L. S. Fuchs, 2003), and what LD identification might require (Speece et al., 2003). It also included questions about instruction, such as whether the knowledge base was adequate to frame mathematics and reading comprehension interventions, whether problem-solving approaches to RTI were effective and feasible (D. Fuchs, Mock, Morgan, & Young, 2003), and what RTI interventions might look beyond third grade (Marston, Muyskens, Lau, & Canter, 2003; Vaughn & Fuchs, 2003). And questions central to policy were also raised. These included whether RTI might actually reduce rates of LD identification (D. Fuchs et al., 2003), what the next step should look like in a continuum of learning support services that extends beyond a second layer of supplemental small-group tutoring (D. Fuchs et al., 2003), and what resources and activities would be required to scale up such a complex education reform (Denton, Vaughn, & Fletcher, 2003).

There is no question that, between publication of the 2003 special issue and the writing of the present one, RTI has become a major force in education reform. RTI has been codified into federal law as a method for LD identification (Individuals with Disabilities Education Improvement Act, 2004). It has been integrated into policy, with all 50 states permitting RTI in LD identification. It is presently under consideration as part of the Elementary and Secondary Education Act reauthorization. And in the fields of special education, school psychology, and reading education, RTI's essential components (screening, progress monitoring, research-principled general education instruction, and supplemental intervention) have dominated scholarly activity in the form of empirical studies, practitioner guidebooks, policy debates, and conference presentations. What's less clear is how extensively RTI has actually been implemented in schools and the extent to which those implementations represent tenable prevention models, guided by best practices. Issues persist related to implementation and effective use of data sources, procedures, and practices for decision making around these data, as well as viable strategies for differentiating general education classroom instruction and validated methods for intervention. Moreover, educators continue to ask thoughtful questions about how to effectively organize the various tiers of

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intervention and how to efficiently provide them within the context and realities of schools.

In this introduction to this special issue, "A Decade Later," we provide an overview of the accomplishments as well as the persistent questions surrounding RTI. We organize this discussion within three categories: assessment, instruction, and policy. Within each of these sections, we also highlight how the articles in the present special issue expand on the key issues. As RTI was developed initially for the early grades (kindergarten through third grade) and primarily in the area of reading, many—although not all—of these issues speak to the expansion of RTI to address a broader set of academic content areas and the full range of grade levels.

RTI Accomplishments and Persistent Questions Pertaining to Assessment

Screening

RTI's greatest accomplishment to date may be the dramatic increase in schools' routine reliance on screening to identify students at risk for reading and increasing math difficulties. Measures derived from the curriculum-based measurement model, such as calculations and concepts or application problems sampling the annual mathematics curriculum at Grades 1–6, letter sound fluency, word identification fluency, passage reading fluency at Grades 2–4, and maze fluency at Grades 5–7, as well as less global, shorter-term screeners (e.g., magnitude comparison, phonemic segmentation fluency, nonsense word fluency, quantity discrimination fluency) are now used widely in schools for identifying students with risk for inadequate learning outcomes.

Accurate identification of students who would develop long-term academic difficulties without intervention is necessary for the success of RTI and the improvement of reading and math outcomes. In 2003, we enjoyed relative optimism that we had the basis for efficiently specifying which students were and were not at risk using one-time, brief universal screeners like the ones just mentioned. Such optimism was, however, based largely on studies showing strong correlations between such measures and important outcomes; unfortunately, they failed to report classification accuracy. Since 2003, studies have more commonly provided predictive utility data, with results revealing unacceptably high rates of false positives, particularly but not exclusively at the early grades. Problematic classification accuracy with one-time, brief universal screening has been documented widely across fields of investigation and raise fundamental questions about whether schools can allocate costly intervention services on the basis of one-time, brief universal screening. Doctors, for example, would not recommend intervention on the basis of a single elevated blood pressure measurement, a high PSA reading, or a worrisome mammogram scan. Instead, such universal screening is followed by more accurate (but expensive and sometimes more invasive) monitoring (as in blood pressure) or diagnostic assessment (as in PSA and mammograms).

Increasingly, researchers are recommending such multistage screening for identifying academic risk. More recent studies have documented that a second stage of screening can contribute to accurate identification of students who require a supplemental layer of reading intervention at first grade (e.g., Compton et al., 2010; Compton, Fuchs, Fuchs, & Bryant, 2006; D. Fuchs, Compton, Fuchs, Bouton, & Caffrey, in press) or mathematics intervention at third grade (L. S. Fuchs et al., in press); without a second stage of screening, schools provide costly intervention to many students who would fare well without it. In this special issue, Compton and colleagues (2012) extended this paradigm to show that a second stage of diagnostic assessment can also be used productively to move first graders who will not respond to a supplemental layer of tutoring immediately to the more intensive and perhaps long-term intervention they instead require. Those findings suggest that a multistage screening process near the beginning of first grade can be used to avoid an "RTI wait-to-fail" model, in which children are required to participate in 10–30 weeks of supplemental intervention that can be forecasted to be inadequate. This delays the provision of the more intensive intervention they require. In effect, Compton et al. show that assessing a student's response to generally effective small-group tutoring may not be required to identify students as LD. Schools might use a multistage screening model productively for simultaneously identifying (a) students who require and will benefit from less-intensive, shorter-term supplemental tutoring and (b) those who will fail to respond to such intervention and instead should be moved immediately into the more intensive and longer-term intervention they require. In these and other ways, research continues to refine understanding about how to conceptualize and conduct screening to optimize RTI's effectiveness and reduce its costs.

Progress Monitoring

Within the past decade, important advances have also been accomplished in terms of progress monitoring. For example, readability formulae have dominated the practice of selecting and developing reading passages for oral reading fluency use in progress monitoring, despite that the research literature had long ago documented problems in using readability formulae to equate reading passages (e.g., L. S. Fuchs & Deno, 1992; L. S. Fuchs, Fuchs, & Deno, 1982, 1984). Since 2003, researchers have made good progress in developing a second generation of reading passages that rely on state-of-the-art equating methods. This is illustrated by Vaughn and Fletcher (2012), who organized 100 passages, based on a Lexile text measure of word frequency and

sentence length (Lexile Framework, 2007), into 10 sets of five expository and five narrative texts. They then equated passages to control for form effects (see Francis et al., 2008) and empirically evaluated difficulty. Results showed that equating is needed to deal with form effects but that difficulty level has less impact at middle than elementary school.

Another example of important research advances concerning progress monitoring within RTI systems concerns work conducted by Schatschneider and colleagues (Schatschneider, Wagner, & Crawford, 2008) showing that, for predicting development in second grade, a student's slope of improvement within first grade (based on fall, winter, and spring testing) provides little additional value over and beyond using intercept at the end of first grade. Such information helps RTI implementers as they struggle to operationalize responsiveness. It is important to note, however, that this line of work does not speak to the issue of ongoing progress monitoring for formulating predictions before the end of the school year, for which additional research is required to assess the contribution of slope. It also does not speak to the need for slope in helping teachers recognize, before the end of the school year, when high-risk students are failing to respond to the present instructional intervention and how to optimize timing of instructional adjustments. A research program of randomized control trials (see D. Fuchs & Fuchs, 1998; Stecker, Fuchs, & Fuchs, 2005) demonstrates that this sort of data-based program development, which relies on slope of improvement, can enhance students' outcomes on highly valued standardized achievement tests. Therefore, additional research is needed to understand optimal data collection and decision-making rules within the context of ongoing progress monitoring for such formative development of instructional programs.

All in all, there has been more research in screening than in progress monitoring over the past decade. This may be the case because screening research is easier to conduct. In fact, over the past decade, screening research has relied heavily (although not entirely) on extant databases available through schools, districts, or states. In any case, screening research is less costly and logistically easier because it requires fewer measurements than progress-monitoring studies. And just as screening studies are easier for researchers to conduct, universal screening is easier for schools to handle, with schools' reliance on screening far exceeding implementation of ongoing progress monitoring, which requires at least monthly—and for some uses weekly—measurements. Schools' failure to integrate progress monitoring into RTI systems is unfortunate in light of research showing that progress monitoring can save schools many dollars in providing costly intervention to students who are falsely identified with risk on the basis of universal screening (Compton et al., 2006; Compton et al., 2010) and that progress monitoring provides a critical tool for addressing the intensive instructional needs of students who fail to respond to standard forms of small-group tutoring (D. Fuchs, Fuchs, & Stecker, 2010). A decade after progress monitoring was deemed an essential component of RTI, pressing questions remain about how to enhance its feasibility for routine implementation, how to ensure adequate technical features, and how to use the resulting data to optimize RTI decision making.

Accomplishments and Persistent Questions Pertaining to Instruction

Core Instruction in Reading and Mathematics (Tier 1)

When considering instruction for students with LD, providing appropriate remediation (i.e., tertiary intervention or Tier 3) is often the primary focus of special educators. Yet core classroom instruction (i.e., Tier 1) is undoubtedly important in reducing the number of students demonstrating academic risk as well as promoting positive outcomes for students with LD. Research suggests that well-implemented and effective classroom-based instruction leads to fewer students requiring intervention initially and over time (D. Fuchs, Fuchs, Mathes, & Simmons, 1997; L. S. Fuchs, Fuchs, Hamlett, Phillips, & Bentz, 1994; Vaughn et al., 2009) as well as reduction in referral and placement in special education, with more proportionate representation of minorities, English language learners, and males (Torgesen, 2009; VanDerHeyden, Witt, & Gilbertson, 2007; Wanzek & Vaughn, 2010). It is important to note, however, that the vast majority of studies documenting improvements from implementing Tier 1 approaches have been conducted at the primary grades (e.g., Jenkins & O'Connor, 2000; Speece et al., 2003; Vaughn, Linan-Thompson, & Hickman; 2003), with relatively little research on multitiered interventions with middle-grade students (for exceptions, see Vaughn et al., 2010, and a commentary, D. Fuchs et al., 2010).

Incorporating effective instructional practices in the general education classroom with the goal of promoting reading, writing, and math outcomes for students representing a range of learning challenges has been a focus of special education since the category of LD was recognized by the federal government in the early 1960s. Numerous initiatives including the regular education initiatives, prereferral teams, schoolwide support models, and Reading First have been developed, promoted, and evaluated with uncertain outcomes for students with LD (Baker & Zigmond, 1990; Fuchs & Fuchs, 1994; Gamse, Bloom, Kemple, & Jacob, 2008; Semmel, Abernathy, Butera, & Lesar, 1991). Special education has participated in initiatives such as RTI as a means of enhancing overall screening, ongoing assessment, and instructional decision making for all students—recognizing that implementation of these practices should benefit students at risk and with disabilities who spend considerable instructional time in general education.

Perhaps the one agreed-on aspect of Tier 1 is the need for teachers to differentiate instruction to meet the range of learners' needs. But just how classroom teachers can or should do this has proved challenging. According to Institute of Education Sciences's practice guide on reading RTI (Gersten et al., 2008), educators can use assessment data to design differentiated instruction for core reading, with which teachers might decide to focus primarily on code- or meaning-based instruction for different students (Connor, Morrison, & Underwood, 2007). So how do classroom teachers use information about students' learning to design and provide code or meaning emphasized instruction? This seemingly obvious form of instructional differentiation is complex and requires extensive knowledge of reading instruction as well as classroom management. Not only do teachers need to use appropriate assessment tools to determine students' needs on the critical skills at their grade level, they also need to vary the type and intensity of instruction to meet students' needs by adjusting the focus of instruction, group size, and instructional scaffolding with feedback to monitor and provide appropriate instruction. Fulfilling the need for differentiated instruction at the classroom level is often beyond the skill set of even the most proficient teachers. Even so, tools for making this task easier are available through classwide peer tutoring practices (e.g., D. Fuchs et al., 1997; L. S. Fuchs et al., 1994; Greenwood, Delquadri, & Hall, 1989) as well as computer-assisted diagnostic and prescriptive teaching approaches (Connor et al., 2007).

Nevertheless, improving overall Tier 1 classroom instruction so that students with LD are appropriately instructed is an ongoing problem that becomes increasingly challenging after the primary grades. Essentially in Tier 1 we are attempting to maximize two important determinants of student success: opportunity to learn and quality of instruction (Gerber, 2005). Accomplishing student success includes two topics we discuss next: (a) ongoing, sustained, and high-quality professional development and (b) more powerful classroom practices that are associated with improved learning and are feasible to implement.

Ongoing, sustained, and high-quality professional development. High levels of intensive and ongoing professional development for teachers related to progress monitoring, instruction, and intervention are required in both reading and mathematics. The need to provide sustained, focused, meaningful, and situated professional development for teachers is so consistently requested as to be almost reduced to a trivial concern (e.g., Denton et al., 2003; Gersten & Dimino, 2006). Yet the extent to which we can rejuvenate current teaching practices rests on the quality and effectiveness of developing teachers' knowledge, skills, practices, and, importantly, their enthusiasm for acquiring and using these practices. Gersten and colleagues (Gersten & Dimino, 2001; Gersten, Morvant, & Brengelman, 1995; Gersten, Vaughn, Deshler, & Schiller, 1997) indicate that teachers are unlikely to benefit fully from even quality professional development on practices for teaching students with learning difficulties, unless those practices are built on research demonstrating overall improved outcomes for the full range of students. Professional development conducted within the framework of an RTI approach is likely to be effectively implemented if benefits from screening, progress monitoring, and interventions are linked to all students.

So how can the ongoing level of expertise required of practicing teachers be developed and sustained? Descriptive literature on professional development identifies several factors for promoting effective schoolwide change, including (a) establishing environments in which teachers participate in decision making and problem solving (Gersten et al., 1995; Newman, King, & Youngs, 2000; Renyi, 1998), (b) providing teachers with feedback through coaching or extended evaluations as they implement new teaching and assessment practices (Clement & Vandenberghe, 2001; Gersten et al., 1995; Newman et al., 2000; Renyi, 1998), (c) using student data to design and modify instruction (Stecker, Fuchs, & Fuchs, 2005), and (d) engaging teachers as active learners who provide support and feedback to each other about new literacy practices (e.g., Greenwood, Terry, Utley, & Montagna, 1993; O'Connor & Jenkins, 1999). All of these factors make sense and appear doable for a year or two. However, real change is the result of long-term sustained implementation—particularly if the goal is increasing overall student level achievement outcomes (Taylor, Pearson, Peterson, & Rodriguez, 2005; Simmons et al., 2010). For example, Vaughn and colleagues conducted a 4-year study in all of the elementary schools (i.e., seven buildings) in one near-urban school district, providing yearlong intensive professional development and in-class coaching to teachers in kindergarten and first, second, and third grades. This resulted in positive student outcomes for students including improved reading scores and reduced numbers of students requiring intensive intervention (Vaughn, Linan-Thompson, et al., 2009; Vaughn, Wanzek, et al., 2009). However, sustaining such an effort is difficult and expensive, and new district initiatives often sidetrack previous accomplishments.

Powerful and feasible classroom practices that improve student learning. The field needs powerful instructional practices that are both feasible and impactful in general education classrooms even as they reflect the realistic constraints of classroom instruction and management. Most progress in instructional practices has affected typically achieving students or those at risk for learning difficulties. Considerably fewer studies have addressed improving outcomes for students with identified LD, with even fewer for older students with LD. Without sufficiently powerful interventions that classroom teachers can readily implement with demonstrated efficacy for students with LD, educational outcomes for these students will be compromised.

Secondary Intervention (Tier 2)

Within an RTI framework, secondary intervention (i.e., Tier 2) typically refers to additional instruction provided to students who do not meet grade-level expectations. This need may be determined based on benchmarks established by the local education agency or based on standardized normative data. At Tier 2, effective interventions are explicit and systematic and occur from 3 to 5 days a week for at least 20 minutes each day. The group sizes are small (usually fewer than 6 students, with one teacher or well-trained and supervised paraprofessional) and focus on the specific skills the students need (e.g., mathematics problem solving or reading comprehension with fluency). These interventions are associated with improved outcomes, primarily in kindergarten through second grade, as illustrated by Denton (2012), with some work in mathematics as illustrated by L. S. Fuchs, Fuchs, and Compton (2012). Substantially fewer Tier 2 intervention studies are available beyond second grade in reading (Wanzek & Vaughn, 2007) and beyond third grade in mathematics (L. S. Fuchs et al., 2012).

Prevailing issues about effective Tier 2 programming, which relate directly to students with LD, are (a) what intervention is used and with what duration and frequency, (b) what personnel provide it, and (c) when, how often, and on what basis students move in and out of intervention (i.e., how to frame decisions for entering and exiting Tier 2 and whether to move back to Tier 1 or to Tier 3 intervention). Selecting an appropriate intervention and determining who will provide it and how often it will be delivered are nagging issues. Some districts use problem-solving approaches in which the type of intervention is selected based on individual students' needs (e.g., Marston et al., 2003); other districts use a more standardized approach in which they select packaged interventions based on efficacy for improving high-priority skills at the relevant grade level (e.g., a validated, standardized intervention in first grade focusing on phonics, word reading, and fluent text reading). The extant evidence favors more standardized approaches for early reading (e.g., D. Fuchs, Compton, Fuchs, & Davis, 2008; Wanzek & Vaughn, 2007) and mathematics (L. S. Fuchs, Compton, Fuchs, Paulsen, Bryant, & Hamlett, 2005; L. S. Fuchs et al., 2012). In addition to demonstrated efficacy, standardized approaches offer several advantages in that schools can (a) document what students have been taught, (b) better use resources to assemble materials and training, and (c) monitor and bolster fidelity of implementation. In addition to determining what intervention will be used, schools must decide who will implement the intervention. In some RTI models, the classroom teacher is responsible for Tier 1 and Tier 2 intervention, requiring them to find time during the day to provide additional instruction to students at risk in reading and/or mathematics. Needless to say, Tier 2 interventions are substantially more difficult to implement when the responsibility falls to the classroom teacher than when those services are provided by a Tier 2 intervention specialist.

And what about formulating decisions about moving students in and out of Tier 2? On what basis do we move students from secondary (Tier 2) to tertiary (Tier 3) interventions? Should students stay in Tier 2 interventions for long periods of time (several years)? What about students who frequently meet benchmarks, thereby exiting Tier 2 and moving back to Tier 1, but who then reenter Tier 2 several months later as they fall behind? These are just some of the many questions schools and districts face on a daily basis as they attempt to implement an RTI framework. These questions require additional empirical data. One answer, in light of evidence described in this special issue (Compton et al., 2012; Vaughn & Fletcher, 2012), is that not all students need to go through Tier 2 to determine placement in Tier 3. Some young students manifest such substantial deficits early, despite generally effective Tier 1 instruction, that they require immediate intervention that is more intensive than is possible in Tier 2. Many older students have already been provided extensive Tier 2 interventions and require something more intensive than what can be offered at Tier 2. Also, students whose Tier 2 progress is real but sufficiently slow, such that they require Tier 2 for years, may profit from a more intensive Tier 3 intervention early to create better opportunity to remediate their skill deficits.

Questions Central to Policy

Essential policy issues surrounding RTI concern the identification of LD. The sanctioning of RTI as a method for LD identification within federal law was a major impetus for RTI's widespread implementation during the past decade. It is not surprising, therefore, that every article in this special issue includes at least some discussion of how RTI might affect LD identification and the LD construct. One important question is whether RTI is necessary for identifying students with LD (i.e., students who require most intensive and long-term intervention). That is, do we need to conduct a diagnostic intervention trial (typically in the form of a Tier 2 validated small-group tutoring program) to forecast long-term academic development and LD status? As per Vaughn and Fletcher (2012) as well as Compton et al. (2012), the answer to this question may be no. The value of Tier 2 intervention may reside for one subset of at-risk students: those who can be identified as likely to profit from that time-limited and low-intensity form of intervention. By contrast, the other subset of at-risk students, who can be identified as unlikely to profit from that form of intervention, should proceed directly to the more intensive and sustained intervention they require, as represented in

high-quality special education for students with LD (D. Fuchs et al., 2010).

A second and related question concerning LD identification is whether assessments of cognitive performance offer value in forecasting students' lack of response to Tier 2 intervention (i.e., LD status). In this special issue, D. Fuchs, Compton, Fuchs, Lambert, and Hamlett (2012) provide provocative data showing that despite a restricted sample, which had already been universally screened as at risk for reading problems, cognitive data collected within the first months of first grade, in combination with December word identification fluency (WIF), accounted for more than 50% of the variance in reading comprehension performance 5 years later. And it is important that substantially more of this explained variance was unique to the cognitive variables than to December WIF. Moreover, exclusive reliance on the cognitive variables for classifying end-of-fifth-grade LD achieved the same degree of accuracy with or without December or even end-of-first-grade WIF in the model. This suggests that cognitive variables (in this case phonological processing, rapid automatized naming, oral language, and analytical reasoning ability) are useful in LD identification. In a similar way, Vaughn and Fletcher (2012) describe chronic nonresponders (i.e., LD students) in terms of serious language impairment. Both articles are important in understanding the potential role of cognitive performance data, not only for identifying LD but also for planning effective instruction for this otherwise unresponsiveness group of students. Of course, as noted by D. Fuchs et al., it is important to avoid confusing identification with treatment, and these authors provide interesting discussion about whether and if so how cognitive variables associated with reading development might be incorporated more productively in the design of intervention than has previously been considered.

A final and looming question concerns whether RTI, with its strong prevention component, decreases LD prevalence. Although the prevalence rate of LD has decreased over the past decade, there are competing explanations for this decrease. In addition to RTI, other important contextual variables have changed. Two examples: First, the accountability framework, which permits schools to avoid disaggregated reporting of outcomes for students with disabilities if the number of such students is sufficiently low, has encouraged schools to decrease identification. Second, with a suffering economy, schools have offered fewer services for LD students, instead relying exclusively on general educators to serve students with LD by differentiating classroom instruction (D. Fuchs et al., 2010). Without the provision of intensive remedial services for students with LD, schools' motivation to navigate through the LD identification process decreases. In these ways, the structure of the accountability framework and the suffering economy illustrate how external pressures may influence LD prevalence.

In any case, in light of the decrease in prevalence, it is interesting to consider whether the research base suggests that RTI might contribute to decreasing prevalence, as suggested by Denton (2012) and L. S. Fuchs et al. (2012). Of course, as estimated by L. S. Fuchs et al., in their summary of four generally efficacious mathematics interventions, LD prevalence hovered at 4% when Tier 2 intervention employed validated small-group tutoring. These figures reflect only a disappointingly small reduction in LD prevalence compared to the traditional IQ–achievement discrepancy system in which risk prevention is not systematically incorporated. This suggests the limitations of RTI preventative services for dramatic reductions in the need for ongoing, intensive services for students traditionally identified as LD. Moreover, as L. S. Fuchs et al. discussed, estimates of unresponsiveness derived from research probably underestimate the actual percentage when RTI is practiced in schools because researchers are more likely to ensure correct implementation of validated tutoring procedures and because estimates of unresponsiveness are based on performance immediately following tutoring.

Further complicating this issue, some schools may determine responsiveness without any formal measurement of the construct, relying instead on informal judgments about response. Research is needed to determine what methods schools use and how well the resulting judgments of responsiveness correspond to students' future trajectories and long-term outcomes. One important reason for the emergence of RTI as an education reform was license for states to use unresponsiveness for the purpose of identifying LD. Work is needed to provide the field guidance about how to determine which students are and are not responding to preventative tutoring.

Conclusions

The five articles in this special issue illustrate how researchers have extended the 2003 database on RTI with increasingly sophisticated research designs and methodological tools. And, of course, these five articles serve to illustrate the depth and contribution of the hundreds of RTI studies conducted over the past decade. Even so, as we reflect on the content of these five articles and on the knowledge base accrued over the past 10 years, the cautious optimism about RTI, which characterized the 2003 RTI special issue, also seems in order at the present time. For example, we find the basis for optimism in the precision with which students can be identified for movement to Tier 2 intervention (Compton et al., 2006; Compton et al., 2010; D. Fuchs et al., 2012)—but that optimism must be balanced by the need for practitioners to move beyond universal screening: to invest time and resources in short-term progress monitoring, formal cognitive assessment that only specially trained testers can administer, and other types of

innovative assessments (e.g., D. Fuchs et al., in press; L. S. Fuchs et al., in press). At the same time, we find the basis for optimism in the accuracy with which students can be selected for moving select students directly to Tier 3 intervention, foregoing unproductive wait-to-fail time in Tier 2 intervention (Compton et al., 2012; D. Fuchs et al., 2012; Vaughn & Fletcher, 2012)—yet again, that optimism must be balanced, this time by the need not only for formal assessments but also for better understanding of what effective Tier 3 intervention looks like. And we find optimism in the extension of Tier 2 interventions in reading at the primary grades (Denton, 2012), in mathematics at the primary grades (L. S. Fuchs et al., 2012), and to the more challenging arena of middle schools (Vaughn & Fletcher, 2012). In this case, optimism must be tempered not only by the dearth of meaningful research at high schools, where a different RTI model is probably required, but also by a nonresponse rate across the grades and content areas, which reflects the disappointing likelihood that RTI will not realize dramatic reductions in LD prevalence. We also think that although remediation in mathematics and reading is necessary for many at-risk students, highly effective remediation is unlikely to be adequate given that most students spend the vast majority of their instructional time in general education classrooms where differentiated instruction is challenging for even the most capable teachers. Clearly, it is time for researchers to explore innovative instructional methods and delivery systems for more effectively addressing the serious challenges this population experiences, even as schools must recognize their obligation to provide effective remedial services for this group of students.

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