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Response to Intervention and the Identification of Specific Learning Disabilities

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The use of response-to-intervention (RTI) to identify children and youth with specific learning disabilities (SLDs) is described with multiple illustrations. Essential components of the RTI process are specified at multiple tiers of intervention, each essential to valid SLD identification. The RTI goals are prevention in general education, early identification and intervention, and intensive treatment of children with severe and chronic achievement and behavioral challenges. Identification of SLD is described as a series of stages culminating in a comprehensive evaluation that meets requirements of the federal Individuals with Disabilities Education Act. During the comprehensive evaluation, the need for screening in at least 12 domains is stressed, followed by an in-depth assessment in domains in which the possibility of educationally related deficits exists. Advantages of RTI-based SLD identification are discussed. **Key words:** *problem solving*, *progress monitoring*, *response to intervention*, *SLD identification*

CONTROVERSY has existed in the identification of specific learning disabilities (SLDs) from the inception of the diagnostic construct in the 1960s to the present. No consensus exists still today. In fact, thought and practice are perhaps even more diverse than at any time in the past 50 years. Other articles in this special issue deal with the history of identification policy and practices and various alternatives to SLD identification. This article is devoted to one of the contemporary alternatives, identification of SLD through the response-to-intervention (RTI) process. The RTI process has multiple variations and somewhat different purposes. In the first section, the basic structure and premises of RTI are discussed. This is followed by a consideration of policy and practice. Finally, the advantages and disadvantages of SLD identification through RTI are contrasted with other current alternatives to SLD identification.

The concepts of unexpected low achievement and discrepancy from some expected level of performance are fundamental to the SLD construct. The application of RTI to SLD identification preserves these basic concepts by defining SLD with the familiar notion of duel discrepancy, which involves both discrepancy from normal levels of achievement and discrepancy from expected levels of progress, given intensive instruction. This article describes how RTI is used to implement these traditional SLD identification concepts by focusing on student progress.

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RESPONSE TO INTERVENTION

Although problem-solving methods as forerunners of RTI were developed several decades ago and applied to a wide array of human problems (Bergan, 1977; Deno & Mirkin, 1977), the term *response to intervention* emerged in the late 1990s to early 2000s to describe multitiered reading interventions

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(Lyon et al., 2001; Vaughn, Linan-Thompson, & Hickman, 2003) and behavior interventions (Horner & Sugai, 2000). The concept, however, is ancient, because humans have used results to decide on the adoption, continuation, modification, and discontinuation of practices for thousands of years. What is new today in educational system RTI applications are the solid scientific foundations for academic and behavioral interventions, improved measurement precision, formal decision rules, enabling policy and legal supports, and application to a wide range of decisions including identification of SLDs.

Response to intervention is a *process* for designing and delivering interventions in human services settings that is based on four fundamental principles (Batsche et al., 2005; Brown-Chidsey & Steege, 2010; Gresham, 2007; Reschly & Bergstrom, 2009; Tilly, 2008). The process must be implemented with fidelity at all levels and must represent the principles as follows:

1. *Scientifically based* academic instruction and behavior interventions matched to student needs and implemented with good fidelity over a time period that is reasonable to expect gains to meet performance expectations.
2. *Progress monitoring* that is sufficiently frequent and sensitive to match the degree of students' needs and the intensity of the intervention, with results used to compare progress with goals and make changes in goals or instruction/intervention as indicated by progress data.
3. *Data-based* decision making about the degree of students' needs and the intensity of educational services required to meet those needs based on student progress toward benchmark goals for performance.
4. *Multitiered* or levels of intervention that vary in intervention intensity matched to student needs.

The term *response to intervention* appears to be evolving into the term, *multitier system of supports* (*MTSS*), which is essentially equivalent. For most purposes, RTI and MTSS are virtually identical in theory and practice; however, in the context of SLD identification, RTI is used most often and therefore is used in this chapter. Systems implementing MTSS or RTI depend on several tiers of interventions that vary in instructional intensity and measurement precision. At all tiers, the major goal is to improve performance to benchmark levels (defined later).

MULTIPLE TIERS: PURPOSES AND PRACTICES

The number of tiers varies in different RTI/MTSS systems, with a three-tier system being the most common model. The tiers typically are organized loosely around different educational interventions delivered in (a) general classrooms in general education, (b) supplemental instruction or intervention along with general education classroom instruction in general education, and (c) long-term interventions that may involve other programs such as special education in addition to general education. Identification of SLD may occur in connection with decisions about special education eligibility. A common three-tier model is illustrated in Figure 1.

Tier I general education: Primary prevention

Tier I is the general education classroom/program in which all or nearly all children participate. The primary purpose of Tier I is to deliver high-quality academic instruction and positive behavior programs that enable children to meet benchmark expectations. Both the academic instruction and positive behavior programs are expected to be scientifically based, meaning that they are based on multiple research studies yielding positive results (see later discussion). The primary purpose in Tier I is prevention of academic and behavior problems, with a secondary purpose of early identification and treatment of students who appear to be falling below benchmarks. As noted in a National Research

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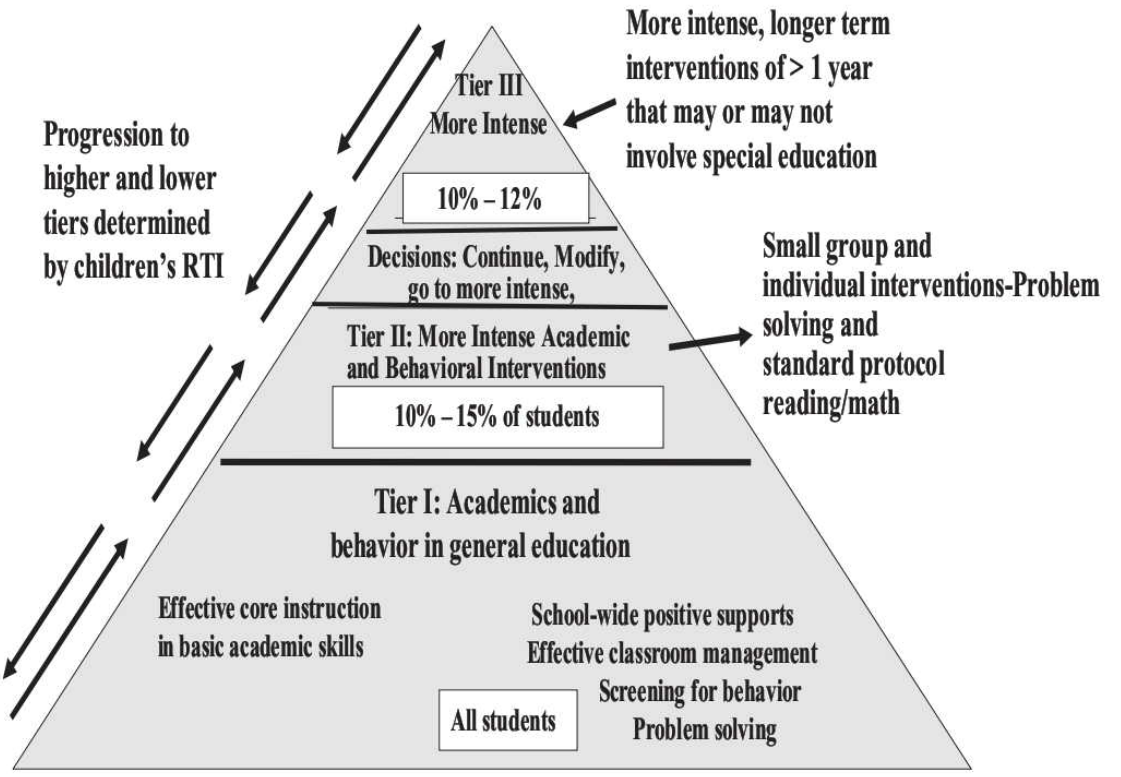

Figure 1. Multitiered system with tiers varying in intervention intensity and measurement precision. MTSS/RTI model with three tiers. MTSS = multitier system of supports; RTI = response to intervention.

Council report, "There is substantial evidence with regard to both behavior and achievement that early identification and intervention is more effective than later identification and intervention." (Donovan & Cross, 2002, p. 6). The following sections describe several key components to prevention and early identification and treatment.

Universal screening and progress monitoring are applied to all children, using methods that are time-efficient and accurate in identifying students at risk for possible educational and behavioral problems. Universal screening is most prominent for screening early reading development, where simple fluency measures requiring from 3 to 5 min per child are used as part of Tier I in RTI/MTSS systems. Universal screening in reading (i.e., involving all students) typically occurs three times per year: in the first month of school, near the middle of the year, and in the last month of school. Universal screening in behavior involves a similar process that has the same purposes (Horner et al., 2009; Horner & Sugai, 2000; Walker, Severson, & Seeley, 2010). Additional progress monitoring may be conducted with a few children in each classroom to look more closely at responses to instructional changes before consideration of Tier II services. Currently available procedures can be used as early as the first month of kindergarten to identify young children with underdeveloped pre- and early reading skills such as alphabet knowledge, phonemic awareness, and initial sound fluency (*AIMSweb*, 2013; Good & Kaminski, 2011). These early measures have strong correlations with third-grade word reading and comprehension (Roberts & Vaughn, 2007); that is, they identify the likelihood of individual children reading adequately by the end of Grade 3, an extremely important educational goal ("Early Warning!," 2011; National Reading Panel, 2000).

Prediction is, however, relatively useless for the individual student. In RTI/MTSS systems, the goal is to disconfirm predictions through Tier I interventions in the general

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education classroom and, if needed, at Tiers II and III. The trajectories of many children below benchmarks can be changed with early identification and interventions. The absence of early screening means that educators often wait for children to fail badly enough to be identifiably by other less sensitive procedures such as teacher referral, frequently past the age when early reading interventions are most economical and effective (National Reading Panel, 2000). This wait-to-fail strategy is not in the best interests of children or school systems.

Benchmarks are used in RTI/MTSS systems, but the concept has a slightly different connotation compared with its common use, indicating a high or exemplary level of performance. Benchmark in this context means the minimum level of performance to have an 80% chance of passing a high-stakes, third-grade reading or mathematics assessment, or, in the context of behavior, patterns of behavior that do not disrupt normal classroom and school processes or interfere with the rights of others excessively. In academics, benchmarks are below national achievement means or medians.

In addition to identifying children below benchmarks needing more intense instruction, universal screening is used to determine whether the classroom academic and behavioral instruction is effective. The criterion is the amount of growth and the proportions of students performing at or above benchmarks toward educational success. Excessive numbers of children performing below benchmarks and slow growth rates are symptoms that typically indicate curriculum or instruction deficiency, often both. The data from an unpublished Evaluation Project I conducted with a school district are summarized in the charts in Figure 2. They illustrate the phenomenon of markedly different classroom outcomes in early reading attributable to curriculum and instructional differences. These are real data from real classrooms.

The expectation is that 80%–85% of all students in the classroom will meet benchmarks.

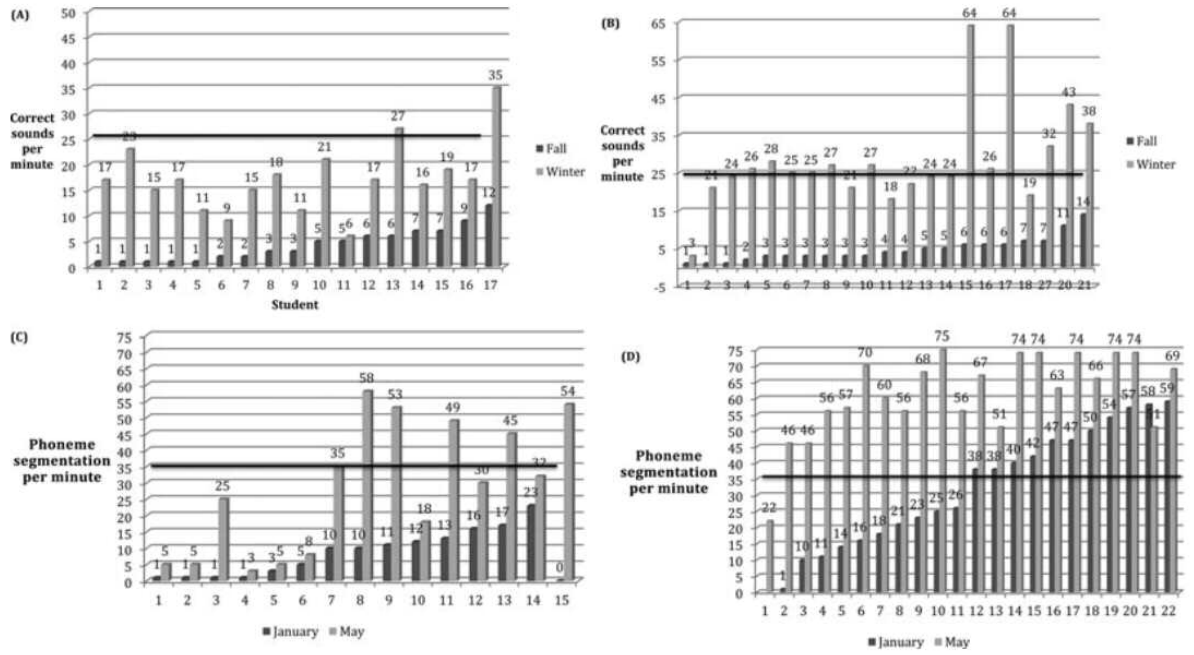

Figure 2. A, Initial sound fluency fall to winter kindergarten whole language instruction (benchmark = 25). B, Initial sound fluency fall to winter kindergarten DI and SBRI (benchmark = 25). C, Correct phoneme segmentation fluency winter to spring kindergarten whole language instruction (benchmark = 35). D, Correct phoneme segmentation per minute winter to spring kindergarten: DI and SBRI (benchmark = 35). DI = direct instruction; SBRI = scientifically based reading research.

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Classrooms vary significantly, however, in meeting this criterion. The time-series analysis graphs in Figure 2 show results for each child and the entire class. This is, arguably, the most effective method to analyze universal screening and progress monitoring results at Tier 1. The results in Figure 2 are from two adjacent kindergarten classrooms in the same elementary school building serving children, all of whom are African American and eligible for free or reduced-cost school lunch. Figure 2A reflects the fall-to-winter results obtained by children in a classroom taught by an inexperienced teacher who is applying the constructivist, balanced literacy (essentially whole-language) instructional methods emphasized in her recently completed teacher training program. Many of the children are below benchmark, and most show slow progress. These results might be rationalized and perhaps dismissed as about what can be expected by citing the economic and other disadvantages experienced by these children compared with middle-class children.

This pernicious rationalization, however, becomes less tenable when the results in Figure 2B are considered. Here, we see the same initial pattern of low performance on the initial sound fluency measure. In this classroom, however, the experienced teacher used direct instruction and scientifically based reading research (SBRI) principles to assist the children to make good progress, and, as Figure 2B shows, more than 80% are at or benchmark or above. Not all children in Figure 2B, despite excellent instruction, were at benchmark. Special concerns existed with Student 1, who started at a very low level and made almost no progress. Some concern existed also with Students 11 and 18. Student 1 was placed immediately in a Tier II supplemental instructional program.

The effects of good instruction are cumulative as are, unfortunately, the effects of poor instruction. These effects can be seen clearly in Figures 2C and D. The students in the whole-language classroom continued from winter to spring to make slow progress, and more than half remained below the benchmark. In sharp contrast, the students in Figure 2D continued to make excellent progress and all were at or above the spring semester benchmark, except for one student who joined the class about halfway through the semester. Particularly noteworthy is Student 2 in Figure 2D, who was Student 1 in Figure 2B. This student made excellent progress through the general classroom program plus supplemental instruction in Tier II. The results in Figure 2 are limited, but they are from real classrooms. There are many classrooms just like these two classrooms with equally disappointing and inspiring results.

Scientifically based instruction principles and curricula are critical to RTI success and valid identification of SLD. The aforementioned results raise two questions relevant to the use of RTI to identify SLD. First, how do we implement universal screening throughout all classrooms in the United States? Through universal screening, more children who are below benchmarks are identified. In a traditional system without screening, many and perhaps most of children reading below benchmarks would not be identified until a later grade. In fact, that is what happened prior to universal screening and RTI when most children who ultimately received a diagnosis of SLD were not referred and classified until third or fourth grade, a time when interventions are more expensive and less effective. The case for early screening and early intervention is compelling; yet, the majority of school districts in the United States still do not implement this practical and effective practice.

The second question is how do we implement high-quality curricula and instruction based on well-validated, evidence-based principles much more widely in the United States? First, such instruction with universal screening and progress monitoring reduces significantly the number of children below academic benchmarks. Current curricula and instructional practices often do not implement these principles, and the preparation of teachers generally does not stress SBRI and direct instruction (Greenberg & Walsh, 2008;

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National Mathematics Advisory Panel, 2008; National Reading Panel, 2000; Walsh, 2013). The fact is that schools do not have sufficient resources to serve all of the children who fail to receive high-quality SBRI in Tier II, and teams certainly cannot diagnose all of these students as having SLD and serve them in special education. Results at Tier I have a profound impact on Tier II, and the number of students who may then go on toward more intense interventions and consideration of SLD identification. The danger of incomplete implementation of Tier I, such as only doing universal screening without significant changes in instruction, is that many more children will be identified as below benchmark, overwhelming the resources at Tier II and potentially at Tier III as well.

Tier II strategic interventions: Secondary prevention

Some students do not respond sufficiently even to the most effective Tier I instruction and curricula. For, perhaps, 10%–15% of students with greater needs, a second level of time-limited, more-intense intervention is established in RTI/MTSS. The second tier is delivered within the general education program and is part of early identification and intervention with academic and behavior problems.

Tier II interventions are delivered in a variety of ways, depending on whether a student's needs are academic, behavioral, or both and on the nature of the interventions. Two approaches are prominent in the literature and practice: problem solving and standard protocol (Burns, Appleton, & Stehouwer, 2005). Some erroneously suggest a dichotomy, or an either-or relationship, between these two options. In fact, both are used in many individual cases depending on student needs.

Problem solving involves an iterative process of defining concerns, analyzing current conditions, including prior knowledge and current interventions, designing interventions that are implemented with progress monitoring, and evaluating results (Bergan, 1977; Bergan & Kratochwill, 1990; Deno & Mirken, 1977; Tilly, 2008; Upah, 2008). The problem-solving methods are applied at Tier II to develop individual and, in some cases, small-group interventions delivered in general education around academic and/or behavioral concerns.

Standard protocol interventions focusing on academic or behavioral skill growth are a second general kind of Tier II intervention (Roberts & Vaughn, 2007; Torgesen, 2002; Torgesen et al., 1999; Vaughn et al., 2003). Standard protocol interventions focusing on specific skill sets are delivered in groups of about three to five children because research on tutorial interventions indicates that small-group interventions are just as effective as individual interventions (Elbaum, Vaughn, Hughes, & Moody, 2000). Standard protocol interventions are most often used in reading, although some standard protocol interventions exist in classroom-related behavior (e.g., Crone, Hawken, & Horner, 2010). In the Vaughn et al. approach, the intervention was delivered daily over approximately 20 weeks in 35-min pull-out sessions. Each of the five critical components of reading was taught each day, with greater emphasis on weak areas. Principles of SBRI were implemented including instruction that is systematic and explicit with frequent student responding and feedback (National Reading Panel, 2000; Snow, Burns, & Griffin, 1998). Progress monitoring and graphing of individual student progress against goals were done at least once per week, with formative evaluation rules applied. A significant proportion of the poor readers included in the Vaughn et al. standard protocol intervention made sufficient gains to remain in general education without further support, thus very likely improving overall achievement in the school and reducing the need for expensive special education programming.

First, both approaches achieve strongly positive results in research trials and practice situations (Burns et al., 2005). The Burns et al. meta-analysis indicated a median effect size of +1.1 across 24 studies for both approaches to Tier II interventions. It is also important to note that effect sizes varied from +6.71 to

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+0.18, suggesting that simply adopting RTI tiers is not sufficient. The interventions in the tiers must be empirically validated, implemented with good fidelity, and revised as needed through formative evaluation procedures.

For many students, both standard protocol and problem-solving interventions are needed. The standard protocol intervention may be the most efficient and effective means to address the academic problem, whereas interventions developed through problem solving often are the most effective means to address off-task, disruptive behaviors that interfere with learning in the general education classroom and in small-group tutorial sessions (Morgan, Farkas, Tufis, & Sperling, 2008; Torgesen et al., 1999). Most standard protocol reading interventions now include a point system with backup reinforcers to improve task engagement, because in previous studies with equivocal results, behavior often interfered with efficient learning and improved progress (Torgesen et al., 1999; Vaughn et al., 2003). Moreover, problem-solving interventions to address disruptive and off-task behavior in the general education classroom are essential to generalization of achievement gains from the tutorial sessions.

Figures 3 and 4 illustrate the intervention and data-based decision-making processes used in Tier II in example cases of students with reading problems. At Tier II, time-series analysis individual graphs are used to guide decision making. Figures 3A and B depict hypothetical children with reading difficulties in the first grade. In Figure 3A, a successful Tier II intervention is depicted leading to the decision to return the child to general education with no additional or supplemental interventions. An unsuccessful intervention is depicted in Figure 3B.

Both these students are in a school that has adopted an RTI system including universal screening of all children using age-appropriate, curriculum-based measures in reading. Both children were below benchmark levels in the spring of kindergarten and in the fall of first grade. Additional classroom interventions were implemented for both, and progress monitoring was increased to twice per month during the fall semester. Despite the greater instructional intensity and more frequent progress monitoring with formative evaluation in the general education classroom, the children were significantly below the winter first-grade benchmark in oral reading fluency. The first student also had lower rates of on-task behavior and engaged in a moderate level of disruptive behavior. No behavior issues were reported for the second student.

An individual graph was established for the first student (Figure 3A). The essential features of the graph were the ordinate (vertical axis) reflecting levels of oral reading fluency and the abscissa (horizontal axis) representing time in weeks. A reference line is entered on the graph representing the benchmark level in oral reading fluency for students in the middle of first grade to early second grade (20 weeks). The initial level is 24 words correct per minute. The slope of the benchmark line is based on the average rate of growth for first-grade students of 1.5 words correct per week. The goal for the student is set at an ambitious growth level of 2 words correct per week, which allows the student to reach the benchmark level after 20 weeks. The rationale is that the student is receiving the more intense Tier II intervention that will, if effective, produce a more rapid growth rate.

The student is then placed in a Tier II standard protocol reading intervention with behavior intervention to increase task engagement and reduce disruptive behavior in the general education classroom and tutorial sessions. The graph for the first student illustrates data-based decision making based on weekly progress monitoring. First, the initial growth over the first 2 weeks of intervention meets the goal of 1.5 words correct growth per week; therefore, the same instructional and curricular procedures are continued. Results over the next 3 weeks do not meet the goal. Applying the formative evaluation rule of making changes in interventions that produce insufficient results over two or

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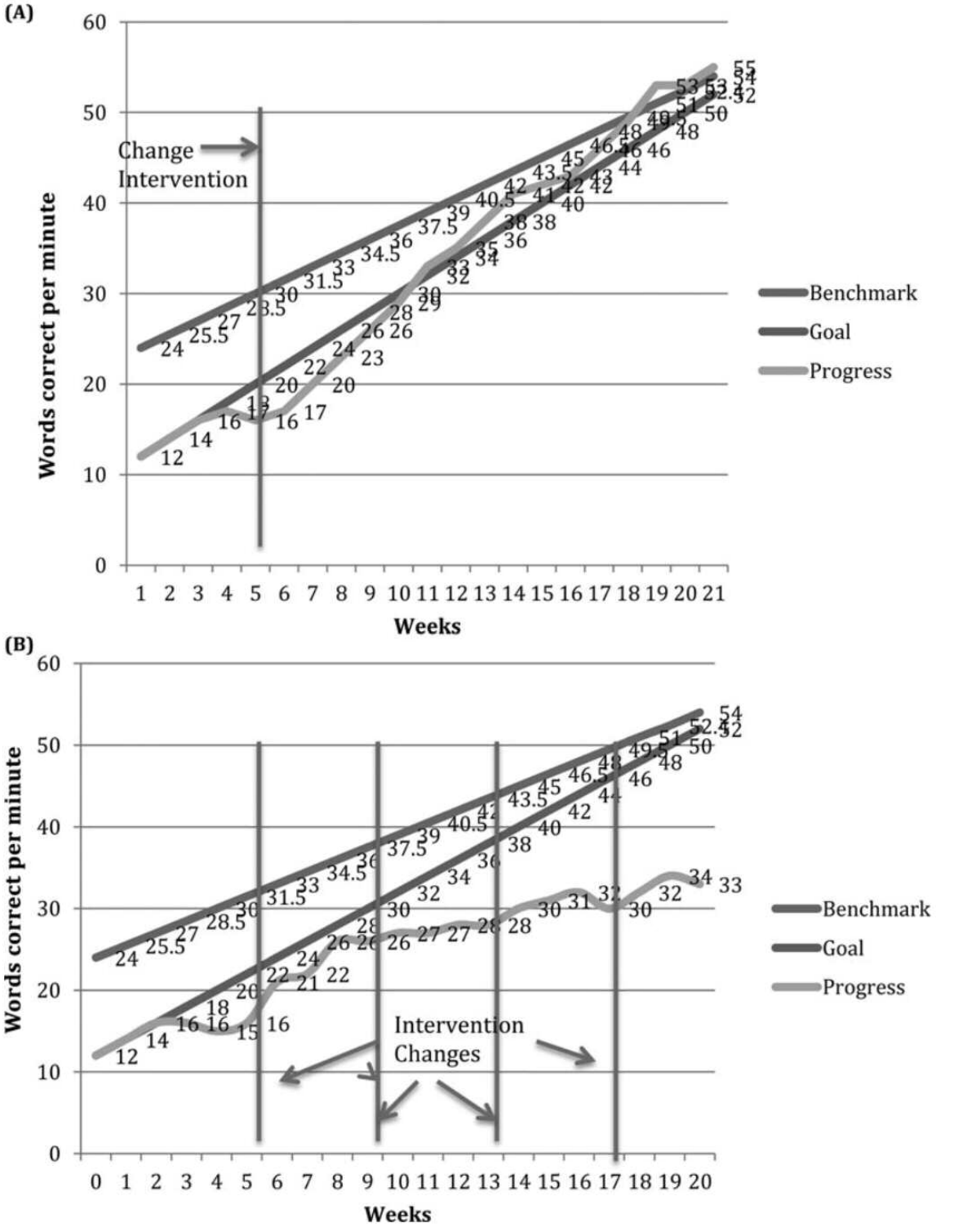

Figure 3. A, Successful Tier II reading intervention. B, Unsuccessful Tier II intervention. From a table in "Response to Intervention," by D. J. Reschly and M. K. Bergstrom, 2009, In *The Handbook of School Psychology* (4th ed., pp. 434–460), New York: Wiley. Copyright 2009 by the John Wiley & Sons, Inc. Adapted with permission.

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three data points, the intervention is changed both to better meet the child's needs and to improve the results. The vertical line indicates the change at Week 5.

Instruction and behavior intervention continue, as does progress monitoring. Over the next few weeks, the rate of progress meets the goal and then exceeds the goal for 3 consecutive weeks. Again applying the formative evaluation decision-making rules of making changes if the results either fail to meet or exceed the goal for 3 weeks, the goal now is increased from 2 to 2.5 words correct per week, a new goal line is established (not shown in Figure 3A) and a vertical line is entered at Week 15 to signify a change in the goal. Instruction and behavior intervention continue.

By Week 20, the results indicate that the child has caught up with the benchmark in terms of level of performance and rate of progress. At this point, the Tier II intervention is reduced in intensity through fewer sessions per week, with progress monitoring continued through the 24th week. The child's progress continues over the next 4 weeks at or above the benchmark level, and the Tier II intervention is discontinued. The behavior plan is also reduced in intensity; however, weekly progress monitoring is continued for at least another 4 weeks to ensure that behavioral progress continues as well, leading to the decision-making stage discussed in the next section.

A second Tier II intervention with insufficient results is depicted in Figure 3B. Again a standard protocol reading intervention was implemented, with weekly progress monitoring. The students' initial growth met the goal, but by Week 3, results were insufficient to meet the goal. Intervention changes were made at Weeks 5, 9, 13, and 17. Despite these instructional enhancements, the student depicted in Figure 3B failed to meet the goal, and at the end of the 20 weeks, the student was still well below the benchmark. The child made progress (growth rate of ~1 word correct per week) but not at a rate to catch up with the benchmark. On the basis of these results, there is a significant gap in level of performance and rate of progress. Moreover, continuation of the same rate of progress would require many more months and perhaps years for the student to meet the benchmark, a basic level of performance defined previously. Furthermore, the resources needed to support a long-term intervention of this nature typically are beyond what can be provided in general education. Tier III is considered when students likely need intense instruction and significantly more time to reach benchmarks based on the rate of progress achieved in Tier II.

Decision making at Tier II

Decisions are made on the basis of the results obtained through the Tier II intervention(s). All decisions are data based, using progress monitoring data and performance toward goals related to benchmarks. The decision choices are as follows:

1. *Discontinuation* and return to the general education classroom full-time if the results meet benchmarks, with gradual discontinuation over 3–4 weeks of the Tier II supports and progress monitoring.
2. *Discontinuation* and consider Tier III because the results were insufficient to meet benchmarks despite implementation of an evidence-based intervention that was revised several times to improve results. Many children in well-established RTI/MTSS systems undergo a comprehensive evaluation at this point to determine disability status and special education need.
3. *Continuation* of the intervention for a few more weeks because the results are approaching benchmarks levels, and a few more weeks likely will be sufficient to meet benchmarks.

Tier II models and applications differ on a number of characteristics depending on the relative emphasis on problem-solving versus standard protocol–guided interventions and the ultimate purpose of early identification and treatment versus identification of SLD. In one version, called *smart RTI*, the main

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aim seems to be identification of struggling students as SLD as soon as possible through a relatively brief intervention (4–6 weeks) and decisions based on prediction of likelihood to reach benchmarks (Fuchs, Fuchs, & Compton, 2012). A potential major flaw with this approach is the relatively low number of data points used both to predict outcomes and to shift children from general to special education. Recent research indicates that more data points are needed to establish a stable trend line, an essential prerequisite to accurate data-based decision making at Tiers I and II (Christ, Zopluoglu, Monaghen, & Van Norman, 2013; Shapiro, 2013). Smart RTI also seems to ignore results from Vaughn et al., which show that some children respond to reach benchmarks levels after 10–20 weeks of Tier II intervention after being low responders in an initial 10-week period. Smart RTI is an example of the existing variations and primary purposes of RTI/MTSS.

Tier III: Intensive, long-term intervention

Tier III is reserved for those students who do not respond sufficiently to Tier II and who likely need intensive, long-term intervention. In some cases, Tier III involves continuation of the same level of resources over a longer time period (anticipated to be a year or more) and/or the utilization of additional resources. In Tier III, progress monitoring occurs at least weekly related to goals with formative evaluation decision rules. Placement criteria in Tier III should always be accompanied by exit criteria defining the level of progress (usually stated in terms of state benchmarks and/or behavioral expectations) that will trigger movement to lower tiers.

Contrary to some misconceptions, Tier III does not exclusively involve special education. Special education eligibility and programming may or may not be involved with Tier III. First, some Tier III students need more intensive interventions but *not* the specially designed instruction that is the hallmark of special education. For example, many children and youth with internalizing problems do not need special education to reach academic benchmarks, but they do need mental health services to improve emotional regulation competencies. For some students with intense and persistent needs, other general education programs may be available and more appropriate. Special education will be considered for many, but not all students with intense and persistent learning and/or behavior problems.

SPECIAL EDUCATION ELIGIBILITY AND SLD DIAGNOSIS IN RTI/MTSS SYSTEMS

Information from Tiers I and II is essential, but not sufficient, to meet the legal requirements both to determine special education eligibility and to diagnose SLD. If special education is considered subsequent to Tier II, a comprehensive evaluation is required that meets the legal standards established in state rules and the Individuals with Disabilities Education Act (IDEA, 2004, 2006). The principal legal requirements concerning special education eligibility determination established in IDEA and adopted by states appear the Code of Federal Regulations (CFR) at 34 C.F.R. § 300.301 through 34 C.F.R. § 300.306 in the section, *Evaluations and Reevaluations*. All special education personnel involved with staffing teams making eligibility decisions should be intimately familiar with these requirements. Many of the requirements appeared first in the Education of All Handicapped Children Act (1975, 1977) and have not changed over the last 35 years.

The legal requirements just cited establish a two-pronged criterion for special education eligibility that should have equal weight in decision making:

- First, an educational disability must be diagnosed using classification criteria established by the state education agency (SEA). States must serve the children and youth represented in the 13 disability categories described in IDEA at 34 C.F.R. § 300.8, but SEAs have wide discretion in determining the number of disability categories, the names of the categories,

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and the classification criteria. (Reschly & Hosp, 2004)

- Second, the disability, if one exists, must cause adverse impact on the child's education and the child must need special education, that is, specially designed instruction and, if necessary to provide an appropriate education, related services as well.

Both criteria are equally important. There are children who have a disability but do not need special education and some children who need special education but do not meet the classification criteria for a disability.

The essential role of effective instruction in the general education classroom and Tier II before eligibility determination is further emphasized in legal provisions at 34 C.F.R. § 300.306 *forbidding* the determination that the child is eligible if the determinant factor in eligibility is "lack of appropriate instruction in reading, including the essential components of reading instruction" (as defined in the No Child Left Behind Act of 2002; see prior discussion of reading), or "lack of appropriate instruction in math," or "limited English proficiency." These requirements focus attention on the content of the general education curriculum (e.g., does it provide instruction in the five reading content areas—phonemic awareness, phonics, vocabulary, reading fluency, and comprehension?) and the appropriateness of the instruction. The curriculum content and instructional appropriateness might logically be interpreted as the degree to which children are on course to meet benchmark expectations, a critical Tier I question in RTI. If more than 15%–20% of students are not on course to meet benchmarks, it is logical to implicate the quality of the curriculum and instruction as contributing significantly to the low achievement.

Comprehensive evaluation

Students considered for special education are entitled to a full and individual, comprehensive evaluation that identifies educational and behavioral needs. A critical regulation unchanged since 1977 specifies, "The child is assessed in all areas related to the suspected disability including, if appropriate, health, vision, hearing, social and emotional status, general intelligence, academic performance, communication status, and motor abilities" (34 C.F.R. § 300.304(b)(4)).

This and other regulations suggest that extensive information over multiple domains should be gathered and considered in determining disability eligibility, educational needs, and special education placement. Significantly, this legal requirement allows professional judgment about the domains to be assessed. The regulation does not mandate assessment in all the areas listed; rather, it has the qualification, *if appropriate.* The requirement should be interpreted as requiring consideration of many domains (perhaps $\geq$12) through screening, followed by, when appropriate, in-depth assessment within specific domains (Reschly, 2005, 2008). If screening suggests the possibility of an educationally related deficit in the domain, then in-depth assessment is required. If screening indicates a low probability of an educationally related deficit, then in-depth assessment is wasteful and irrelevant to the goals of the evaluation.

Eligibility evaluations vary by state special education system characteristics, especially the use of noncategorical identification for high-incidence disabilities (Tilly, Reschly, & Grimes, 1999). To date, most states continue to use categorical eligibility (Reschly & Hosp, 2004). The 12 domains in which screening should occur for all children and youth are health, vision, hearing, general intellectual functioning, reading, math, language written and spoken, adaptive behavior, communication, behavior, emotional regulation, and motor. In-depth assessment is needed only in those domains in which screening indicates possible educationally related deficits. This approach is illustrated in Table 1 for 4 of the 12 domains.

For example, the school entrance physical examination, teacher observations, and nurse records and notes are sufficient for nearly all children to screen for an educationally related health deficit. However, consider the

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Table 1. Illustration of the multiple domain comprehensive evaluation in response to intervention identification of specific learning disability

Domain	Screening Information: Is There a Potential Deficit?	In-Depth Assessment	Outcome
Health status	Physical examination records. Teacher and nurse observations. Possible deficit? If no, stop. If yes, proceed to in-depth assessment.	Medical evaluation. If deficit(s) identified, consider medical treatment and educational implications.	Special education eligibility and placement if needed.
Reading	Group achievement tests, daily work, and teacher records. If no, stop. If yes, proceed to in-depth assessment.	Formal and informal diagnostic reading assessments. CBM in reading to determine progress.	Tier II interventions and possible special education and placement.
Adaptive behavior	Teacher and parent observations and interview with brief screening measures. If no, stop. If yes, proceed to in-depth assessment.	Formal adaptive behavior measures supplemented by systematic observations and skills/competencies analysis	Adaptive behavior interventions. Consider ID eligibility and special education eligibility.
Intelligence	Achievement test results, teacher observations, and adaptive behavior screening results. If no evidence of ID, stop. IF ID possible, proceed to in-depth assessment	Administration of a comprehensive test of general intellectual functioning, interpreted appropriately.	Determination of ID eligibility on the intelligence dimension. Consideration of special education eligibility and placement.

Note. CBM = curriculum-based measurement; ID = intellectual disability. Four domains are included in the table. Eight other domains should be evaluating using the same screening and decision-making process, followed by, if indicated, in-depth assessment. The other domains are vision, hearing, math, language written and spoken, communication, behavior, emotional regulation, and motor. From "Response to Intervention," by D. J. Reschly and M. K. Bergstrom, 2009, In *The Handbook of School Psychology* (4th ed., pp. 434–460), New York: Wiley. Copyright 2009 by the John Wiley & Sons, Inc. Adapted with permission.

situation of a child observed by the teacher to have higher rates than most children of needing to go to the restroom, being thirsty, and variations in energy level. These are signs of a possible diabetic condition. The screening information just described is not, of course, sufficient for a diagnosis. Given this screening information, an in-depth assessment is needed through a specialized medical evaluation. Similar reasoning applies to all other areas. For example, consider a child referred because of behavior issues for whom school records and teacher classroom ratings indicate reading at or above national age norms. This student does not, of course, need an in-depth, diagnostic reading assessment. Screening first, followed by in-depth assessment as needed, is the basis for good educational decisions and consistent with federal IDEA legal requirements.

The traditional practice of administering an individual general intellectual functioning measure to nearly all referred children must be reconsidered (Fletcher, Coulter, Reschly, & Vaughn, 2004; Fletcher, Lyon, Fuchs, & Barnes, 2007; Fletcher & Reschly, 2005;

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Reschly, 2004). First, RTI must be allowed by states as a means to determine SLD eligibility (see later discussion). If IQ–achievement discrepancy and cognitive processing are replaced by RTI, the next issue is to rethink the need for assessment of general intellectual functioning in disability determination. If RTI is used in a categorical disability system, all students should be *screened* for significant, educationally related deficits in general intellectual functioning through examination of group achievement test results, samples of academic work, and teacher ratings. If the information from these sources suggests possible intellectual functioning at a significantly subaverage level, then and only then are traditional measures of intellectual functioning relevant to educational decision making. Traditional intelligence tests are useful in these circumstances to rule out mild intellectual disability and as an exclusion factor in the diagnosis of SLD. Behavior screening and, if indicated, in-depth assessment can rule out emotional disturbance. Other possible causes of the poor achievement that persists despite systematic interventions can also be ruled out through screening and, if indicated, in-depth assessment. Adoption of RTI and problem solving in the identification of disabilities, especially SLD, should reduce IQ testing in schools by about 90% (Ikeda et al., 2007; Marston, 2002; Reschly, 2005).

SLD diagnosis with RTI/MTSS

In evaluating the appropriateness of RTI/MTSS to identify SLD, with a comprehensive evaluation as described earlier, the overall problem of SLD identification must be considered. As noted, more than 35 years ago, after reporting the results of an initial evaluation of the intellectual ability–achievement discrepancy method, Danielson and Bauer (1978) commented, "One wonders if a technically adequate solution to the problem of LD identification exists." (p. 175). The same caution exists today. The choices are not between perfect SLD identification methods but between methods with varying degrees of inadequacies. The RTI/MTSS approach to SLD identification is superior to other methods for a variety of reasons, which are presented later.

Instructional relevance

The RTI/MTSS approach focuses explicitly on the goals from the school curriculum, using measures directly related to those goals. The goals are based on the community consensus of what is important for children and youth to learn.

Scientifically based interventions

Scientifically based or evidence-based interventions are the foundations for all interventions at Tiers I, II, and III. The interventions vary in intensity at each tier, with intensity defined as the degree of instructional explicitness, measurement precision, and group size. Data-based decision making using instructionally relevant measures that are sensitive to small increments in academic and behavior growth is the foundation for RTI/MTSS. Decisions are based on tangible reflections of progress relevant to important academic and behavioral outcomes.

Improvement of special education services

A major and infrequently cited benefit of RTI/MTSS is the improvement of special education services to children through the development of information that informs the design and implementation of the individual educational program (IEP). Time-series analysis graphs are developed at Tier II that typically are useful in designing the IEP and in monitoring progress after special education services are implemented. Despite nearly 30 years of research indicating the benefits of progress monitoring and formative evaluation to children (and teachers; Fuchs & Fuchs, 1986; Kavale, 2007), the vast majority of current special education IEPs and programs do not use time-series analysis graphs with progress monitoring and formative evaluation. These programming components enhance special education results and are more likely to be implemented after identification of SLD through RTI/MTSS because

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they come more or less naturally from the identification process and procedures.

Traditional SLD concepts

Much could be said about the flaws in the traditional definition of SLD, particularly the initial error of framing SLD in terms of processes; however, two concepts have been present in nearly all discussions of SLD identification (Fletcher et al., 2007). First, there is the concept of *unexpected low achievement*. The challenge is to determine unexpected from what? The traditional solution was the discrepancy between intellectual ability and achievement in designated areas ("Procedures for Evaluating," 1977). No one was really happy with this solution (e.g., Kaufman, 2004; Senf, 1978), although it survived until substantial and replicated research clearly established flaws in the method and the harm to children of delaying initial diagnosis and treatment of SLD to later ages, the wait-to-fail effect (Stuebing, Barth, Molfese, Weiss, & Fletcher, 2009).

Unexpected low achievement in RTII/MTSS diagnoses of SLD is based on inadequate response to high-quality instruction implemented over a substantial time period, guided by progress monitoring and formative evaluation data-based decision rules. An inadequate response to these programming conditions that are well below benchmarks is an *unexpected* result, hence part of the basic concept of SLD.

Exclusion of other plausible causes of the low achievement is the second foundational concept in the SLD diagnostic construct. Other plausible causes that are addressed and ruled out are intellectual disability, emotional disturbance, sensory or motor impairments, cultural differences, economic disadvantage, and limited English proficiency (IDEA, 2006; 34 CFR § 300.309(a)(2)). The exclusion factors are assessed through screening for each before RTI is initiated or during the RTI/MTSS comprehensive evaluation. Information for screening is followed by in-depth assessment if potential problems are indicated in a specific domain.

POLICY AND LEGAL BASIS OF RTI/MTSS IN IDENTIFICATION OF SLD

The policy and legal bases for SLD identification through RTI/MTSS are well established in IDEA (2004, 2006; 34 C.F.R. § 300.309). Response to intervention is one of two methods endorsed in the special regulations for SLD. The RTI/MTSS approach is explicitly mentioned at 34 C.F.R. § 300.309,

> The child does not make sufficient progress to meet age or State-approved grade-level standards in one or more of the areas identified in paragraph (a)(1) of this section when using a process based on the child's response to scientific, research-based intervention.

States must permit the RTI/MTSS method, but other methods can be adopted including an alternative discussed later or research-based procedure(s) established by the state. In a recent, as yet incomplete, survey of state policy, all states require some form of RTI as part of SLD eligibility, but many further require additional procedures such as determining strengths and weaknesses in cognitive processing and/or the severe discrepancy between intellectual ability and achievement. As permitted by IDEA regulations, some states use RTI/MTSS as the only method for the identification of SLD (e.g., Colorado, Iowa, West Virginia).

ALTERNATIVES TO RTI/MTSS IDENTIFICATION OF SLD

The principal alternative to determination of SLD through RTI/MTSS is the IDEA regulation regarding strengths and weaknesses; specifically,

> The child exhibits a pattern of strengths and weaknesses in performance, achievement, or both, relative to age, State-approved grade-level standards, or intellectual development, that is determined by the group to be relevant to the identification of a specific learning disability, using appropriate assessments, consistent with §§300.304 and 300.305. (IDEA, 2006; 34 C.F.R. § 300.309)

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The strengths and weaknesses method of SLD identification is extremely loose, meaning that almost any measurement procedure producing a pattern of strengths and weaknesses that is determined by the staffing team to be indicative of SLD can be applied. In fact, only one state (Maine) currently specifies specific criteria for cognitive strengths and weaknesses (Oliver & Reschly, 2004). The regulation on strengths and weaknesses is used frequently by states to justify the continued use of the traditional severe discrepancy between intellectual ability and achievement in SLD identification. A critical and often-misunderstood phenomenon is that large variations across cognitive process, achievement, and intellectual functioning measures are *normal* and should be expected. Moreover, strengths and weaknesses in these profiles have *never* been a unique characteristic separating students with SLD from normally achieving children (e.g., Fuchs, Fuchs, & Deno, 1985). Strengths and weaknesses across a profile of scores founder as indicators of disability due to large reliability problems with difference scores and the erroneous expectation that normally achieving children will have flat profiles across a full battery of tests. To repeat, test profile scatter is normal.

Much has been written about processing and SLD identification over the last 40 years. Some traditional SLD scholars and advocates continue to endorse a processing basis for SLD (e.g., see review by Fuchs, Hale, & Kearns, 2011) while acknowledging,

> Scientific evidence does not justify practitioners' use of cognitively focused instruction to accelerate the academic progress of low-performing children with or without apparent cognitive deficits and an SLD label. At the same time, research does not support "shutting the door" on the possibility that cognitively focused interventions may *eventually* [emphasis added] prove useful to chronically nonresponsive students in rigorous efficacy trials. (p. 102)

In a later article, Kearns and Fuchs (2013) reported a meta-analysis that essentially yielded negative results regarding the usefulness of cognitively focused instruction.

The history of processing constructs and SLD over the last 40 years is an excellent example of faith triumphing over reality. The fundamental claim that SLD is caused by processing deficits and that a pattern of processing strengths and weaknesses must be identified in SLD identification persists despite consistent disconfirming evidence, regardless of whether the processes are conceptualized as information processing modalities (e.g., auditory, visual learners), cognitive style (e.g., simultaneous, sequential processing), or cognitive processes (e.g., memory, executive function, planning). Ample research substantiates the nearly uniformly negative results regarding processing and interventions with children with SLD (e.g., Hammill & Larsen, 1974, 1978; Kavale, 2007; Kearns & Fuchs, 2013; Mann, 1979; Pashler, McDaniel, Rohrer, & Bjork, 2009).

Much more could be said about other alternatives to RTI/MTSS for identifying SLD. Interested readers are referred to two particularly insightful chapters in an edited volume that despite being 10 years old are excellent descriptions of current issues in using either severe discrepancy or pattern of strengths and weaknesses in cognitive processes to identify SLD. In short, both severe discrepancy and patterns of strengths and weaknesses are seriously flawed as identification methods and contribute little or nothing to effective interventions (Fletcher et al., 2002; Gresham, 2002). The RTI/MTSS approach is highly recommended here, not because it is perfect but because it is better in accurately identifying children and youth with SLD *and* creating conditions for effective special education interventions than any of the alternative methods of SLD identification.

CHALLENGES IN IMPLEMENTING RTI/MTSS IN SLD IDENTIFICATION

The RTI/MTSS approach is complex, involving multiple levels of intervention intensity and measurement precision, delivered

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across general, remedial, and special education. Each of the key components at each tier has a strong evidence base, involving, for example, progress monitoring and formative evaluation, direct and explicit instruction, scientifically based reading and mathematics instruction, and behavior interventions using principles from applied behavior analysis (Mayer, Sulzer-Azaroff, & Wallace, 2011). Positive results are reliably associated with each of these and other components. The more complex issue is whether these components can be implemented with good fidelity as a *system* of intervention and decision making. The system challenge is implementing not only the components with good fidelity but also the integrated decision making at all levels simultaneously. Some evidence suggests that the *system* implementation is possible but not automatic or necessarily easy (Ikeda et al., 2007).

Fidelity of implementation

The fidelity of RTI/MTSS must be evaluated in the context of other alternatives to SLD identification. Research on the fidelity of implementing the severe discrepancy method of identifying SLD is instructive. Several studies in different states established enormous problems in the fidelity with which the severe discrepancy method was implemented, with about one third to more than one half of all students with a diagnosis of SLD not meeting the state-adopted severe discrepancy criteria, even though the data came from states that at that time had explicit tables to specify the discrepancy needed to meet that part of the state SLD classification rules (Kavale & Reese, 1992; Mcleskey & Waldron, 1991). Regardless of the SLD identification method, significant resources will have to be devoted to ensuring fidelity of implementation, including preparation of key personnel, specification of key steps, monitoring implementation, and evaluating decision making (Greenberg & Walsh, 2008; Steiner & Rozen, 2004; Walsh, 2013; Zigmond, Kloo, & Stanfa, 2011).

SLD identification trends

The national trend in identification of SLD is toward gradually lower proportions of the overall school-age population. In Figure 4, this trend is depicted using data published in the National Digest of Educational Statistics (Snyder & Dillow, 2012). The last data point was determined by using data from www.ideadata.org and the projected national and state enrollment in P-12 public education. To serve as a contrast to the rather large

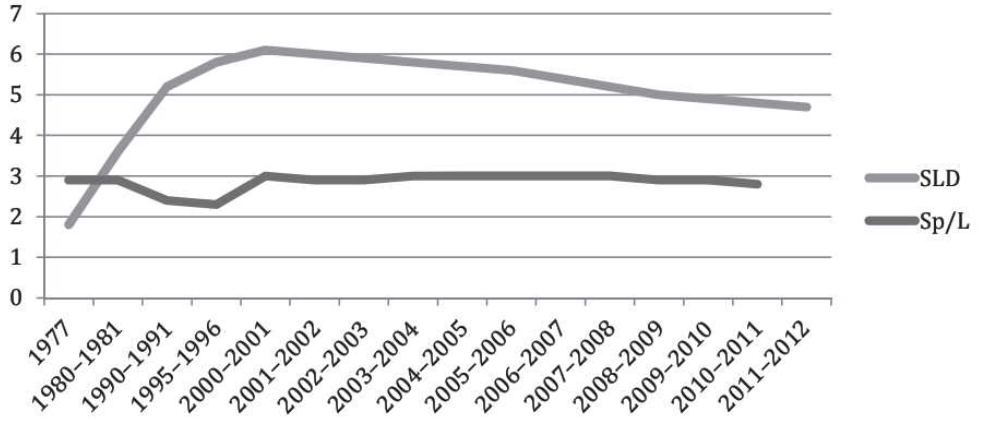

Figure 4. Prevalence of the Sp/L and SLD population 3–21 years of age as a proportion of the P-12 public school enrollment: 1977 to 2011–2012. Sp/L = speech–language-impaired; SLD = specific learning disability. From Table 48 in "Digest of education statistics 2011 (NCES 2012-001)," by T. D. Snyder and S. A. Dillow, 2012. Copyright 2012 by the Institute of Education Sciences. Adapted with permission.

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fluctuations in SLD at selected points since 1977, the proportions of children and youth identified because of speech–language impairments are also represented. Overall, identification of students with disabilities, aged 3–21 years, has changed from a high at 13.8% of the P-12 public school population in 2004–2005 to 13.0% in 2010–2011. The peak SLD identification was at 6.1% of the P-12 public school population in 2000–2001, declining to 4.7% in 2011–2012. The numerator reflecting the SLD or speech–language-impaired (Sp/L) population 3–21 years of age somewhat exaggerates the prevalence of these disabilities in the public school population that generally does not include children and youth at 3, 4, 19, 20, and 21 years of age. The trends are clear. The Sp/L population has been remarkably stable, whereas the SLD population has varied considerably. The main point of these data in relation to the RTI/MTSS method of determining SLD eligibility is that prevalence has continued to decline in a trend that began with the 2001–2002 school year and continues as RTI/MTSS has become increasingly prominent since 2005. It also should be noted that the prevalence of other health-impaired disability category has increased over this same time period, but not as much as SLD has declined.

CONCLUSION

The use of RTI to identify SLDs is intended to fully integrate educational interventions and measurement from general education through special education. Multiple tiers differing in intervention intensity, measurement precision, and numbers of students participating in each are implemented with multiple purposes, including improving prevention, early identification and treatment, identification of SLD and other disabilities, and special education services. Other SLD identification methods exist, but research on them indicates significant problems with reliability and validity, particularly regarding improving instructional programs for students who struggle academically and behaviorally. Many challenges with all SLD identification methods exist, particularly the fidelity with which they can be implemented as intended. These challenges are worth addressing in RTI/MTSS because of the benefits to children in the forms or earlier intervention, application of evidence-based practices with progress monitoring and formative evaluation, and implementation of an iterative process of defining problems, analyzing conditions, intervening, adjusting interventions based on results, and data-based decisions about outcomes.

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