

Response to Intervention Screening and Progress-Monitoring Practices in 41 Local Schools

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This study describes response to intervention (RTI) screening and progress-monitoring instruments and procedures in 41 local school settings. For screening the schools most often used published reading assessments or commercial products; a three-times-per-year screening schedule was most prevalent. For progress monitoring schools most often relied on published reading assessments; a weekly progress monitoring schedule was most prevalent. The variability between local school practices is discussed with regard to efficiency, equity, and viability of RTI.

Since its inclusion in the 2004 reauthorization of the Individuals with Disabilities Education Act (P.L. 108–446), educators are increasingly hearing about the concept of “response to intervention” (RTI), and numerous RTI products have been introduced in the educational marketplace. Although RTI is new to many educators, researchers and some state and local school districts have more than a decade of experiences with a mélange of models and methods called by the name RTI. Many differing ideas about what RTI is, why schools should use it, and how schools should implement it have developed during that time. Recently, however, the emerging consensus is that RTI is a framework that includes (a) universal screening, (b) tiered levels of high-quality interventions, (c) progress monitoring, and (d) data-based curricular decisions and that the RTI framework, when implemented with fidelity, can serve the dual purposes of improving all students’ academic and behavioral outcomes and identifying those students with specific learning disabilities (LD) (Batsche, Curtis, Dorman, Castillo, & Porter, 2008; Chun & Witt, 2008; Fuchs & Fuchs, 2005; Mellard & Johnson, 2007; Shinn, 2008).

Assessment elements, particularly screening and progress monitoring, are vital to any RTI model. They underlie an RTI principle: data-based decisions are important to conclusions about students’ responsiveness and unresponsiveness to curriculum and instruction. That is, the assessment scores help educators decide whether or not students have been appropriately matched to curricula and instructional practices. Screening identifies those students who may be at risk of having learning or behavioral difficulties and may need interventions to avert such difficulties. Progress monitoring determines students’ responsiveness and unresponsiveness

to the provided interventions and thus dictates their movements among intervention tiers. Extensive research documents the value and validity of numerous individual screening and progress-monitoring instruments (Fuchs & Fuchs, 2006). Further, a synthesis of RTI research supports the claim that RTI, as a whole, “is an effective method for identifying children at-risk of learning difficulties and for providing specialized interventions” (Coleman, Buysse, & Neitzel, 2006, p. 2). However, less is known about how schools have implemented RTI.

This article adds to the literature by describing screening and progress-monitoring instruments and practices in 41 local schools during the 2003–2004 academic year. Many of the RTI school sites readily admitted the details of their screening and progress monitoring were “works in progress” as they continued to determine which assessments and data were most helpful to them. With their own experiences and the emergence of numerous RTI products in the marketplace during the 5 years since our survey (e.g., National Center on Response to Intervention, 2009), we assume these specific schools have refined their RTI programs. However, we speculate that our observations from these schools are fairly representative of the many schools today that are just beginning their RTI implementations and thus may be beneficial to many readers.

Assessment Concepts

Screening, considered a key feature of early intervention and an important first step for identification of students at risk for learning and behavioral difficulties, ideally uses tests that are quick, low cost, and repeatable to assess age-appropriate critical skills (Mellard & Johnson, 2007). These tests must meet empirical psychometric qualities of reliability and validity. A useful screening measure must also balance accuracy, which

is a validity construct, and efficiency, which is an administrative concern (Jenkins, 2003). A perfect screening instrument would result in the valid identification of all students who are at risk (i.e., all of whom later develop problems) and all students not at risk (i.e., none of whom later develop problems). Given the unlikelihood of perfection, Mellard and Johnson advise casting a wider net and identifying a larger number of potentially at-risk students—the majority, but not all, of whom will later develop problems, thus including some false positives—rather than identifying a smaller number of potentially at-risk students, thus missing some students who will indeed later develop problems. All the while, the ease of assessment administration and the costs in time and other resources should be kept in mind.

Progress monitoring is a formative assessment to determine if students are benefiting from instruction and whether those benefits are accruing at an adequate rate. By collecting and analyzing learning and performance data, teachers and school teams are better able to make decisions about appropriate subsequent instruction, particularly for those students not succeeding (Mellard & Johnson, 2007; Stecker, Fuchs, & Fuchs, 2005). Compton, Fuchs, Fuchs, and Bryant (2006) suggest that conducting screening for all students three times over the course of the school year, followed by 5 or 6 weeks of progress monitoring of those students scoring below a specified score to confirm at-risk status, provides efficiency and at the same time reduces the number of students incorrectly identified as being at risk (i.e., false positives). Thus, in their recommendations they link screening and progress-monitoring assessments. In other RTI frameworks, the screening scores alone are used in determining student placements in interventions.

In addition to screening and progress monitoring, schools may use diagnostic assessments. The difference among these three types of assessments may be explained with an analogy to caring for a child. A mother takes her child to the doctor for a yearly “well child” exam. The doctor checks the child’s throat, ears, temperature, etc. If the doctor should find that the child has a red inflamed eardrum and a slight fever, medicine might be prescribed for an ear infection. The mother gives the child medicine, watches for other symptoms, and frequently monitors the child’s temperature, hoping to see the medicine work. If the child continues to have a fever, experiences increased ear pain, or develops other symptoms, such as a cough or sore throat, another trip to the doctor and perhaps a throat culture may be in order for a more detailed diagnosis of the illness. Screening to identify students in need of intervening services is like taking the child for a yearly medical exam. Progress monitoring to determine if an intervention is producing desired results is like taking more temperature readings and looking for other symptoms of the illness, and hopefully seeing improvements. Administering diagnostic assessments, such as an individual reading inventory or running records, is akin to a doctor ordering a throat culture to diagnose the root cause of the illness and perhaps prescribing a different course of treatment. Progress monitoring would both precede and follow diagnostic assessment.

Using the above analogy, readers may conclude that any teacher can use screening and progress monitoring, even if the school system does not practice full-blown RTI. This

	Screening	Progress Monitoring	Diagnostic Tests
Population	School-wide	Class/small group/student	Individual student
Uses	Broad benchmark attainment index	Specific academic skill or behavioral target	Specific academic domains of knowledge, skills, or abilities
Frequency	Annually/3 x per year	Every 3 weeks/weekly	Annually
Purpose	Predict students who are at-risk	Regroup students	Identify specific student deficits
Focus	School focus	Student/class focus	Student focus
Instruction	Class/school instruction and curriculum decisions	Intervention effectiveness (curriculum/instruction)	Selecting curriculum and instructional methods
Implications	As first step for intervention planning	Continue or revise placement	Planning or specifying intervention

FIGURE 1 Purposes of three types of assessments.

concept is sometimes referred to as “assessment that drives instruction.” To accrue the benefits of assessments and avoid impeding learner progress, however, practitioners must be able to differentiate and properly apply screening, progress-monitoring, and diagnostic assessment instruments and procedures. Figure 1 highlights several of the distinguishing features of these three types of assessments. Two important points of this figure should be noted. First, because each type of assessment is fundamentally intended to address a different question, they differ from one another across many features. Second, the assessments can be used in concert to identify students experiencing difficulties, plan interventions, and evaluate the degree to which students are benefiting from instructional and curricular changes.

Assessments in an RTI Framework

Screening assessments are important to an RTI framework, especially when the RTI focus is on the prevention of academic and behavioral difficulties. Thus, screening measures are generally appropriate for school-wide use as a broad index of student knowledge, skills, and abilities for the purpose of predicting students who may be at risk of learning or behavioral difficulty. Screening is generally scheduled periodically as a first step leading to intervention planning within the class/school instruction and curriculum.

Progress monitoring is appropriately applied with a class, small group or single students to measure changes in specific academic skills or behaviors. Thus, if a student or

group of students were receiving targeted instruction (e.g., to improve fluency in basic math facts), progress monitoring is useful to inform decisions about continuing or revising students' placements or regrouping students for instructional or curricular interventions. The progress-monitoring measure should be particularly sensitive to the effects of the intervention and thus should be similar to the tasks on which the learner has received the instruction. Progress monitoring occurs on a variable frequency. That frequency (e.g., every 3 weeks, weekly, daily) should be guided in part by the sensitivity of the skill or ability to change. For example, teaching letter naming can be comparatively easier with more immediate results than developing a student's reading comprehension. Therefore more frequent measures would be used with letter naming interventions than with comprehension skills interventions.

Diagnostic assessments are conducted with individual students to identify deficits in specific academic domains of knowledge, skills, or abilities so that teachers may select appropriate curriculum and instruction or plan intervention(s) to overcome these deficits. Diagnostic assessment is likely to be an infrequent (e.g., annual) event and would appropriately be conducted in the context of targeting specific deficits on which instruction might focus. While screening and progress monitoring measures should be highly linked to the curriculum, diagnostic measures should evaluate underlying skills and abilities that are necessary for adequate response to high-quality instruction with a validated curriculum.

Research to Practice Issues

Consistent use of valid and reliable screening and progress monitoring is important to the implementation of RTI. However, variations among schools or districts may undermine the potential value of RTI as an educational construct. Differing screening methods may result in a highly disparate number of students identified as at risk for academic failure (Hollenbeck, 2007). Similarly, varying progress monitoring methods can produce "as much or greater variation in the number and type of children identified as having LD than the variation produced by use of IQ achievement discrepancy" (Fuchs & Deshler, 2007, p. 134; Fuchs, Fuchs, & Compton, 2004), particularly if diagnostic and other assessments are not a part of the process. As Hollenbeck (2007) points out, very few examples of RTI implementation at the local level exist in the literature. Thus, the purpose of this study is to describe the screening and progress monitoring efforts of 41 local schools during the 2003–2004 academic year and to discuss the implications with regard to efficiency, equity, and viability of RTI.

Survey of RTI Assessments in Practice

Beginning in 2002, the National Research Center on Learning Disabilities (NRCLD; www.NRCLD.org) worked with school sites that were implementing RTI practices (Johnson, Mellard, Fuchs, & McKnight, 2006). The U.S.

Department of Education specifically requested that NRCLD identify, describe, and evaluate the implementation of RTI in elementary schools across the nation. In conjunction with the six federally funded Regional Resource Centers, NRCLD staff solicited the participation of more than 60 schools potentially using RTI practices and identified 41 schools in 16 states that met three levels of selection criteria indicating the schools, in fact, had implemented an RTI model. These 41 schools subsequently completed extensive surveys and provided detailed documentation to describe their RTI practices.

Selection Criteria

The first criterion to simply qualify as a school with an RTI model consisted of seven benchmarks based on findings from Mellard, Byrd, Johnson, Tollefson, and Boesche's (2004) survey of practitioners, researchers, and policy makers. A school had to indicate that it had (a) at least two tiers of intervention; (b) a reliable, valid system for monitoring learner progress; (c) leadership and professional development supporting RTI; (d) scientifically based reading practices in general education; (e) scientifically based reading practices with appropriate intensity beyond the first tier; (f) an objective cut point or procedure for demarcating responsiveness; and (g) LD identification procedures that followed regulatory requirements. At the time of our survey, RTI in schools generally focused on reading skills and instruction.

Second, a school's RTI implementation had to contain sufficient elements of an RTI working model. Five broad categories with a total of 27 elements factored into this second level of selection criteria: (a) general education practices, (b) student assessment practices, (c) intervention model practices, (d) disability determination practices, and (e) student outcome data (Mellard et al., 2004). The third and final condition for inclusion was the school administrator's willingness to provide detailed information for a case study through documentation, surveys, and interviews.

The schools that met these criteria completed surveys and interviews and provided supporting documentation describing their RTI practices. Schools listed, for each grade level (K–5), the following information related to the Tier 1 school-wide screening practices used to identify students needing Tier 2 intervention:

- (a) measures used to track reading improvement,
- (b) the frequency of measurement for tracking reading improvement,
- (c) the index used to demarcate inadequate response to general education, and
- (d) cut point used to demarcate inadequate response to general education.

The schools listed, for each grade level, the following information related to Tier 2 progress-monitoring practices:

- (a) measures used to track responsiveness,
- (b) the frequency of measurement for tracking RTI,
- (c) the index used to demarcate inadequate response, and
- (d) the cut point to demarcate inadequate response.

School Demographics

The selected schools were fairly affluent, with only 3 percent of the 41 schools serving a high proportion of low-socioeconomic-status students. The schools had varying degrees of racial and ethnic diversity: 49 percent of the schools were more than five percentage points above their state's average White Non-Hispanic enrollment; 20 percent were more than five percentage points below average; and 31 percent were within five percentage points of average. Thirty-two of the schools served K–5 students, three K–4, two 1–4, and four K–3. School size varied widely, with about two-thirds of the schools having enrollments of fewer than 500 students. Forty-two percent of schools had less than 1 percent of students classified as English language learners (ELLs), 39 percent had between 1 percent and 9 percent, and 19 percent had more than 10 percent of students as ELLs. The schools served a relatively low proportion of students with specific learning disabilities (SLD), with over half the sites having 5 percent or less of students with SLD, and only 10 percent of sites having more than 10 percent of students with SLD.

Analytical Categories

We established nine broad categories of screening and progress-monitoring instruments in order to summarize the measurement instruments used in the schools. Our categories are as follows:

1. Published reading program assessments—published in conjunction with reading programs designed to be used as supplements to a core reading program or additional reading practice for struggling readers.
2. Published reading assessments/inventories—published stand-alone assessments (i.e., not a part of an intervention or core curriculum program).
3. Comprehensive core reading program assessments—published in conjunction with a core reading program designed as a primary instructional reading program for a school to address the needs of the majority of students.
4. Informal classroom assessments—teacher-created measures of student ability compared to a pre-determined benchmark or a student's own prior performance.
5. Curriculum-based measures (CBM)—assessments of a skill (e.g., oral reading fluency) tied to the curriculum of instruction that directly and repeatedly measures student performance.
6. DIBELS (Dynamic Indicators of Basic Early Literacy Skills; Good & Kaminski, 2002)—a published set of standardized, individually administered measures of early literacy development.
7. District or state assessments—standard assessments developed by and administered across the district or state.
8. Standardized achievement tests—nationally standardized tests that provide a comprehensive assessment of student achievement (e.g., Iowa Test of Basic Skills [ITBS]; Hoover, Dunbar, & Frisbie, 2001).

9. Other—measures of performance such as classroom grades or portfolio assessment; standardized intelligence tests.

Screening Practices

Measurement Instruments

Most schools (90 percent) reported using three or more screening instruments, up to as many as eleven, for their Tier 1 or general education screening. Although schools reported many different types of assessments used to screen for reading difficulty (Table 1), three types of instruments were reported most often: published reading assessments (36 percent), DIBELS (13 percent), and district or state assessments (11 percent).

Frequency

The frequency of screening activities also varied widely among schools with 23 percent of schools performing tri-annual assessments, in many cases as a result of the DIBELS structure; 14 percent reported using annual assessments, primarily due to the schedule for district and state assessments; and 14 percent reported using quarterly and biannual assessments, frequencies often suggested by published reading assessments.

Cut Points

More than a third of the schools reported that their cut points to determine which students were academically at risk were based on norms set by the published materials they used for screening (e.g., DIBELS, Harcourt). For example, DIBELS oral reading fluency recommends that first-grade students be considered at some risk if at the end of the school year they read less than 40 correct words per minute (cwpm). Harcourt suggests first-grade students be considered at risk if at mid-year their oral reading fluency is less than 55 cwpm. Although each method empirically derives an at-risk group of students, data are not available to indicate whether these instruments would identify the same set of students.

The next most frequently reported method (approximately one out of six schools) for determining which students needed further interventions or more intense instruction was the use of percentages of their local student population, most often targeting students in the lowest 25 percent, although several schools used 20 percent, 16 percent, or 15 percent. Using an approach that is not connected to a national norm or an external standard may err to the detriment of students or school resources. In schools with low prevalence of truly at-risk students, schools may overidentify risk and waste school resources serving students who do not need intensive instruction; in schools with high prevalence of truly at-risk students, schools may not provide needed instruction to students. Other infrequently used types of empirical benchmarks included

TABLE 1
Sample Tier 1 Screening Instruments by Frequency of Administration

Instrument Type	As Needed										Percentage of Total Reports	
	Daily	Weekly	Biweekly	Monthly	Quarterly	Triannually	Biannually	Annually	Other	Unspecified		
Published reading program assessments	1	1	1	—	1	—	—	—	2	6	13	6%
Published reading assessments/inventories	—	1	—	—	13	15	15	6	1	15	79	36%
Comprehensive core reading program assessments	—	2	—	—	4	2	1	—	9	4	22	10%
Informal classroom assessments	—	1	—	—	4	2	—	—	—	3	10	5%
Curriculum based measures	—	—	—	—	2	6	—	—	—	4	15	7%
DIBELS	—	1	—	1	3	20	4	—	—	—	29	13%
District or state assessments	—	—	—	—	—	2	6	10	—	5	24	11%
Standardized achievement tests	—	—	—	—	1	1	—	12	—	3	17	8%
Other	—	—	—	—	2	2	4	—	—	3	13	6%
Total reports	1	6	1	1	30	50	30	30	12	43	222	100%
% of total reports	0%	3%	0%	0%	14%	23%	14%	14%	5%	19%	100%	

Note: n = 41. The most prevalent instruments and frequencies are shown in bold.

local norms, grade-level determinations, discrepancy ratios, and frustration reading levels.

About one out of six schools reported using no specific cut points but rather a convergence of data from a variety of assessments to determine which students were not succeeding in the general education curriculum. This more clinical approach to identifying risk status puts the onus on school personnel to correctly judge risk. Groups or individuals making such decisions have experience, intuition, and data from which to draw. However, they also may face impediments to accurate judgments such as those articulated by Arkes (1986): covariation misestimation, preconceived notions, lack of awareness, overconfidence, and hindsight bias.

Prevalence Rates

On average the schools placed about 16 percent of their enrollment in Tier 2 instruction. However, the Tier 2 at-risk prevalence rate ranged from a low of 3 percent to a high of 34 percent. Figure 2 displays the frequency of schools' prevalence rates, with about two-thirds of the schools reporting rates near the 15 percent rate often cited in the literature. The schools with rates from 26 percent to 34 percent of enrollment may have school-wide curriculum issues rather than a high prevalence of students at risk. On the other hand, the schools with rates below 10 percent of enrollment may not be meeting the needs of at-risk students.

Exemplar Screening Practice

Although all the surveyed schools qualified as using an RTI model, not all aspects of RTI were of equal quality among the schools. We describe here a good example of screening in a school with total enrollment of 500 K–fifth-grade students. The school staff assessed kindergarten and first-grade students three times a year—fall, winter, and spring—using DIBELS¹ (Good & Kaminski, 2002) to screen for students at risk of reading difficulty. On the same schedule, staff assessed second- and third-grade students using DIBELS fluency and accuracy assessments. In addition, second- through fifth-grade students took the ITBS (Hoover et al., 2001) in November and the Gates-MacGinitie assessment (MacGinitie, MacGinitie, Maria, Dreyer, & Hughes, 2002) in April. Second-grade students were also given the Gates-MacGinitie in October.

Three times each year, immediately following the district-wide student screenings, the school's Literacy Team held a "Literacy Day" allowing team members to review district-wide screening data in addition to data from their own school. The Literacy Team, comprising general and special educators, Reading Plus teachers, area educational agency staff, the curriculum director, and the principal, used the screening data to make decisions about changing current student interventions and to identify students who required more individualized and more intensive interventions.

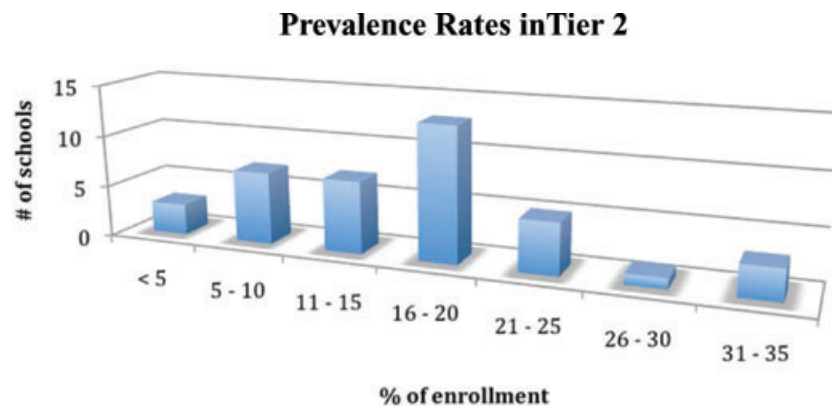


FIGURE 2 Schools reporting Tier 2 placements by percentage of enrollment.

Progress-Monitoring Practices

Measurement Instruments

With regard to progress monitoring during Tier 2 interventions, 39 percent of schools reported using one or two instruments, 44 percent three to five instruments, and 17 percent between 6 and 11 instruments. The types of instruments they used varied, with 33 percent of schools using published reading assessments for progress monitoring, 19 percent using CBM, 13 percent using DIBELS, and 12 percent using published reading program assessments.

Frequency

Frequency of Tier 2 progress monitoring in schools also varied greatly. The schools most often indicated they administered progress measures weekly (24 percent) and quarterly (12 percent). However, a few (5 percent) reported daily progress monitoring while others (4 percent) only monitored progress annually (Table 2).

Cut Points

Just as for screening, the most frequently named cut points for progress monitoring were those based on published norms, reported by more than a third of the schools. About one in five schools reported using a variety of assessments and basing decisions about the need for other interventions or more intense instruction on a body of evidence. More than one in ten schools reported using percentages of students in an intervention group. Again, most often they designated students in the lowest 25 percent as not responding to the intervention, although several schools used cut points of 20 percent, 16 percent, or 15 percent.

A large majority of the schools used the same types of cut scores for both screening and progress monitoring. However, several (approximately 1 out of 12) schools reported using one type of cut score for screening and another type

for progress monitoring. No consistent pattern existed in this mixed use of cut points. For example, one school used local norms for screening and convergent data for progress monitoring. Another used convergent data for screening and published norms for progress monitoring. Yet another used published norms for screening and grade-level determinations for progress monitoring.

Prevalence Rates

The average placements among the 41 schools were 7 percent of enrollment in Tier 3 (range 1 percent to 22 percent) and 4 percent of enrollment in Tier 4 (range < 1 percent to 10 percent). Figure 3 shows great variability among schools, with only about 20 percent of schools reporting Tier 3 placements near the 5 percent rate anticipated by the literature.

Exemplar Progress-Monitoring Practice

One example of strong progress-monitoring practices is in a primary school (preschool through third grade) with an enrollment of 440 students. The school staff monitored student progress and made decisions about instruction for students within the following tiers: core curriculum (Tier 1), core plus supplemental instructional support (Tier 2), and core plus supplemental instructional support and interventions (Tier 3). Progress monitoring, via DIBELS assessments, occurred weekly for students receiving instruction in the core curriculum who met one of three criteria: (a) the student was new to the district and an initial assessment showed that he or she was at risk, (b) the student previously received supplemental or intervention support but was subsequently performing at benchmark level, or (c) the student's rate of progress was a concern for his or her teacher. Progress monitoring in the core curriculum (Tier 1) was discontinued for students who scored at or above a benchmark performance level. For students scoring below the benchmark, school staff further analyzed their performance, with the goal of matching instruction to student needs. These students either

TABLE 2
Sample Tier 2 Progress Monitoring Instruments by Frequency of Administration

Instrument Type	As Needed										Percentage of Total Reports	
	Daily	Weekly	Biweekly	Monthly	Quarterly	Triannually	Biannually	Annually	Other	Unspecified		
Published reading program assessments	2	5	—	—	2	—	1	—	—	4	16	12%
Published reading assessments/inventories	—	4	—	—	9	8	8	1	3	10	50	33%
Comprehensive core reading program assessments	1	2	—	1	1	—	—	—	1	1	7	5%
Informal classroom assessments	2	2	1	1	—	1	—	—	—	2	10	7%
Curriculum based measures	1	9	5	1	2	2	—	—	—	4	27	19%
DIBELS	1	13	4	—	—	—	—	—	—	—	19	13%
District or State assessments	—	—	1	—	3	1	1	3	—	2	11	8%
Standardized achievement tests	—	—	—	—	—	—	—	2	—	—	2	1%
Other	—	—	—	—	1	1	2	—	—	—	4	3%
Total reports	7	35	11	3	18	13	12	6	4	23	146	100%
% of total reports	5%	24%	7%	2%	12%	9%	8%	4%	3%	16%	100%	

Note: n = 41. The most prevalent instruments and frequencies are shown in bold.

remained in Tier 1 with changes to instruction or practice or were placed in core plus supplemental instructional support (Tier 2). Options for instructional support included more instructional time, smaller instructional groups, more precisely targeted instruction at the right level, more explicit explanations, more systematic instructional sequences, more extensive opportunities for guided practice, and more opportunities for corrective feedback. For those students who received this supplemental instruction, progress was monitored, again with DIBELS measures, often twice each week rather than only once as was done when they were in Tier 1. For students scoring above the benchmark or whose performance was on the goal line, two options were considered: a return to core instruction with progress monitoring occurring weekly or continued core plus supplemental instruction. For students with four consecutive scores below the benchmark, or whose slope of performance (i.e., rate of improvement) fell below the goal line, three options were considered: further analysis or diagnostic assessment, continued core plus supplemental support with changes to the support mechanisms, or core plus supplemental instruction *plus* intervention (Tier 3).

Implementation

In addition to our survey of 41 schools, we conducted in-depth interviews with principals, general educators, special educators, and school psychologists in five schools. From their stories we culled several practical issues when implementing screening and progress monitoring. First, the importance of good recordkeeping systems was a recurring theme. Data collection forms and expectations should be in place before the school year begins so that screening can be done early and with consistency from classroom to classroom. Further, some schools recommended devising methods for making screening and progress-monitoring records easily accessible to those who need them for instructional decision making (e.g., online access with password protections). Some schools stated the importance of sharing student data with school staff members from year to year, so that valuable information and time for helping students is not lost. For example, if a student failed to show progress in a particular intervention, but responded well to another type, his new teacher would benefit from being told rather than rediscovering this information.

Even with good recordkeeping systems, however, some schools had issues with staff engagement with the process. For example, a teacher expressed having internal conflict over giving up teaching time to conduct screening and progress monitoring, believing the time spent on assessments was not as valuable as time in general instruction. Other schools avoided this conflict by providing extra help in the classroom to conduct assessments and keep records. One special educator emphasized the importance of everyone doing their part; without screening and progress-monitoring data from the instructor, a support team cannot make good decisions about the students' instructional needs or SLD determinations.

Finally, phrases like "take it slow," "be patient," "do what you can" were common words of advice to other schools

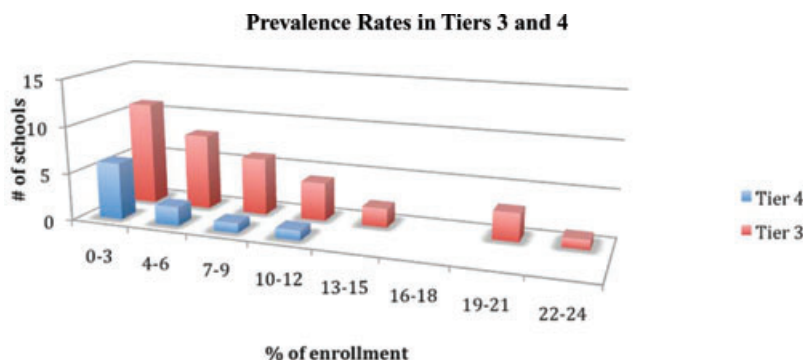


FIGURE 3 Schools reporting Tiers 3 and 4 placements by percentage of enrollment.

interested in beginning RTI. Perhaps one of the most helpful bits of advice came from a special educator who said, “be prepared for a process, not an end.” Screening all students year after year, progress monitoring some students week after week, and making instructional changes to meet student needs are not the goal; they are the means to the goal, which is student success.

DISCUSSION

Perhaps the first observation that we should make is that the schools selected for our study were relatively affluent. Independent implementation of RTI and participation in a study such as ours may be a luxury afforded by higher socioeconomic status schools with few ELLs or students with SLD. As early adopters of ideas presented in the literature, during workshops or other forms of professional development, these schools were willing and able to devote resources to innovation and school-wide change. We believe, however, that schools of every socioeconomic level can learn from their experiences as they develop RTI schema that fit their particular contexts.

We anticipated that schools would conduct school-wide screening to predict which students were at risk of academic failure using a few broad measures between one and three times per year. Instead, we found that schools tended to use multiple instruments with greater frequency and a variety of methods and levels for the cut points demarcating students academically at risk. A school clearly sacrifices efficiency when more time than is necessary to make a valid prediction of risk is spent screening students. If multiple instruments improve accuracy of the predictions, the time may be well spent. We suspect, however, that the reasons for using a variety of instruments may relate to the need to measure a broad range of students and skills, uncertainty about which instruments would provide the data they needed, or perhaps even compromises based on competing teacher preferences. We caution schools to be parsimonious in both the frequency and number of screening instruments in their RTI process. However, if multiple measures are used for screening, documented rationale and procedures for aggregating or weighting of the numerous assessments and associated cut points are impor-

tant (e.g., Does a student have to meet the at-risk cut point on all of the screens or only some?).

We did not attempt to determine which instruments were best for screening. Rather we observed that the schools themselves most often chose to use published reading assessments/inventories (i.e., not a part of an intervention or core curriculum programs), DIBELS, and district or state assessments to identify students who struggled with reading. We speculate that schools selected these instruments for pragmatic reasons, such as previous experience with and ownership of an instrument or the desire for an off-the-shelf solution. In our study, we selected schools using reliable and valid instruments, which is a standard we encourage all schools implementing RTI to adopt. This adoption should be easier with the work of technical review committees that provide ratings on screening and progress monitoring tools (e.g., National Center on Response to Intervention’s Web site rti4success.org).

We expected that each school would use different instruments to answer the unique questions posed by screening (Is this student at risk?) and progress monitoring (Is this student responding to an intervention?). However, the schools we surveyed frequently used the same instruments to screen and monitor progress (e.g., assessments published with interventions, DIBELS). By using the same instruments for screening and progress monitoring schools may create measurement validity issues (e.g., test familiarity or practice effects). Does a measure that is designed to predict a future outcome (e.g., reading achievement) have the same psychometric utility in assessing a learner’s current status for rate of learning or level of performance? Generally the answer is no. Both processes require sensitivity of the instrument but for different purposes—screening for prediction, progress monitoring for identifying changes due to the curricular and instructional intervention. The practice of using the same instrument for both processes may stem from pragmatic decisions or a lack of conceptual understanding of the different purposes for the measurements.

The frequency with which schools reported screening and progress monitoring give further insight into the variability in how these schools understood RTI. Although most schools seemed to screen just a few times a year, a few schools reported screening weekly, biweekly, and monthly.

Many schools reported progress monitoring only annually, biannually, triannually, or quarterly. These two patterns gave us the impression these schools did not understand the purposes of the measurements or have the ability to use the information in practical decisions. As we suggested above, best practice suggests that multiple probes are needed on a regular interval to make judgments about instructional effectiveness. As the intensity of the intervention increases, we would expect to see a higher frequency of progress monitoring.

Equity issues may exist for the nearly two-thirds of schools that relied on such nonstandard cut points as percentages of their local population or convergent data. As Hollenbeck (2007) suggested, such differences between schools or districts may result in a highly disparate number of students identified as at risk in the screening process or as potentially having LD in the progress-monitoring process. Thus, schools may be putting themselves at risk of litigation when making referral decisions for a special education comprehensive evaluation. Parents may have the right to sue the district for arbitrary use of practices that differ from the research standards or other communities.

CONCLUSION

Screening, progress-monitoring, and diagnostic assessments reflect the values of a school or district with regard to accuracy, equity, and economics. Therefore, we are not surprised by the variability in these practices in schools around the nation. Will RTI mature as a framework for prevention, early intervention, and as a component of SLD determination as less effective methods drop out of the picture and more effective methods rise to the top? Or will confusion reign and RTI be abandoned altogether?

As researchers and practitioners consider the answers to these questions, we note that in our survey of schools with RTI practices, teachers who experienced data-based decision making through screening and progress monitoring said they greatly prefer it over non-data-based determination of instructional needs. In order for data-based decisions to be of the highest value, we believe rational, equitable, and efficient assessment elements must be at the foundation. Thus states, districts, and schools must devote financial resources, continue staff development, and provide technical assistance for scaling up RTI practices with fidelity.

NOTE

1. We are not endorsing the products mentioned in the examples we give, but make specific note of them because in some instances the schools' choices for assessments had particular influences on how their screening and progress-monitoring RTI components were implemented.

REFERENCES

- Arkes, H. (1986). Impediments to accurate clinical judgment and possible ways to minimize their impact. In H. Arkes & K. Hammond (Eds.), *Judgment and decision making* (pp. 582–592).
- Batsche, G., Curtis, J., Dorman, C., Castillo, J., & Porter, L. J. (2008). The Florida problem solving/response to intervention model: Implementing a statewide initiative. In S. Jimerson, M. Burns, & A. VanDerHeyden (Eds.), *Handbook of response to intervention: The science and practice of assessment and intervention* (pp. 378–395). New York: Springer.
- Chun, M., & Witt, J. (2008). System to enhance educational performance. Retrieved July 7, 2008, from <http://www.isteep.com/index.html>.
- Coleman, M., Buysse, V., & Neitzel, J. (2006). *Recognition and response: An early intervening system for young children at-risk for learning disabilities. Full report*. Chapel Hill, NC: The University of North Carolina at Chapel Hill, FPG Child Development Institute.
- Compton, D. L., Fuchs, D., Fuchs, L. S., & Bryant, J. D. (2006). Selecting at-risk readers in first grade for early intervention: A two-year longitudinal study of decision rules and procedures. *Journal of Educational Psychology, 98*, 394–409.
- Fuchs, D., & Deshler, D. (2007). What we need to know about responsiveness to intervention (and shouldn't be afraid to ask). *Learning Disabilities Research & Practice, 22*, 129–136.
- Fuchs, D., & Fuchs, L. (2006). Introduction to response to intervention: What, why, and how valid is it? *Reading Research Quarterly, 41*, 93–99.
- Fuchs, D., & Fuchs, L. S. (2005). Responsiveness-to-intervention: A blueprint for practitioners, policymakers, and parents. *Teaching Exceptional Children, 38*, 57–61.
- Fuchs, D., Fuchs, L., & Compton, D. (2004). Identifying reading disabilities by responsiveness-to-instruction: Specifying measures and criteria. *Learning Disabilities Quarterly, 27*, 216–227.
- Good, R., & Kaminski, R. (2002). *Dynamic indicators of basic early literacy skills* (6th ed.). Eugene, OR: Institute for the Development of Educational Achievement. Retrieved June 7, 2006 from <http://dibels.uoregon.edu/measures/orf.php>.
- Hollenbeck, A. (2007). From IDEA to implementation: A discussion of foundational and future responsiveness-to-intervention research. *Learning Disabilities Research & Practice, 22*, 137–146.
- Hoover, H., Dunbar, S., & Frisbie, D. (2001). *Iowa tests of basic skills*. Rolling Meadows, IL: Riverside.
- Jenkins, J. (2003). *Candidate measures for screening at-risk students*. Paper presented at the NRCLD responsiveness-to-intervention symposium, Kansas City, MO. Retrieved April 3, 2006, from <http://www.nrclid.org/symposium2003/jenkins/index.html>.
- Johnson, E., Mellard, D., Fuchs, D., & McKnight, M. (2006). *Responsiveness to intervention (RTI): How to do it*. Lawrence, KS: National Research Center on Learning Disabilities.
- MacGinitie, W., MacGinitie, R., Maria, K., Dreyer, L., & Hughes, K. (2002). *Gates-MacGinitie reading tests* (4th ed.). Rolling Meadows, IL: Riverside.
- Mellard, D., Byrd, S., Johnson, E., Tollefson, J., & Boesche, L. (2004). Foundations and research on identifying model responsiveness-to-intervention sites. *Learning Disabilities Quarterly, 27*, 243–256.
- Mellard, D., & Johnson, E. (2007). *RTI: A practitioner's guide to implementing response to intervention*. Thousand Oaks, CA: Corwin Press.
- National Center on Response to Intervention. (2009). *RTI Library*. Retrieved from <http://www.rti4success.org/> on June 15, 2009.
- Shinn, M. (2008). Implementation in secondary schools. In S. Fernley, S. D. LaRue, & J. Norlin (Eds.), *What do I do when: Answer book on RTI* (pp. 1–17). Arlington, VA: LRP Publications.
- Stecker, P., Fuchs, L. S., & Fuchs, D. (2005). Using curriculum-based measurement to improve student achievement: Review of research. *Psychology in the Schools, 42*, 795–819.

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