

# School Psychology Forum:

## RESEARCH IN PRACTICE

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# Response to Intervention: The Role of and Effect on School Psychology

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**Abstract:** The recent provision in federal special education regulations that allows for the use of student response to scientifically based interventions to diagnose learning disabilities, referred to as response to intervention (RTI), represents perhaps the most significant change in special education in almost 30 years. However, what constitutes RTI and what role school psychology should play is not clearly articulated in legal regulatory or research literature. The current article describes a three-tiered RTI model that uses assessment data to identify and respond to student needs. We also discuss specific activities in which school psychologists could engage within and across the three tiers. Finally, we present data from our school-based experiences that demonstrate how daily activities of school psychologists change within an RTI approach.

#### **Overview**

It is difficult to think of a field in which more calls for change have been made over the past 50 years than school psychology, yet the practice remains mostly stable (Bradley-Johnson & Dean, 2000). The most recent suggestions for research and practice describe school psychologists as instructional and mental health specialists in schools (Ysseldyke et al., 2006), which seems consistent with practitioner interests because the ability to engage in activities beyond traditional assessments is highly related to increased job satisfaction (VanVoorhis & Levinson, 2006). This disconnect between a desired, advocated, and actual role could be due to many factors including those attributable to the systems in which we work. First, education is generally resistant to change (Ysseldyke, 2001), but, perhaps more importantly, special education's reliance on and reinforcement of the search for pathology that is associated with disability categories is inconsistent with the desired role of school psychologists as scientist-practitioners and problem solvers (Bradley-Johnson & Dean, 2000; Deno, 2002; Reschly & Ysseldyke, 2002; Ysseldyke et al., 2006).

The most significant shift in special education since its formal inception in 1975 occurred in the most recent (2004) reauthorization of the Individuals with Disabilities Education Act (IDEA 2004). This federal mandate states that local education agencies (LEA) "shall not be required to take into consideration whether a child has a severe discrepancy between achievement and intellectual ability" when diagnosing a learning disability (LD; Pub. L. No. 108-446 § 614 [b][6][A]). Instead, LEAs are allowed to use a "process that determines if the child responds to scientific, research-based intervention as a part of the evaluation procedures" (Pub. L. No. 108-446 § 614 [b][6][A]; § 614 [b][2 & 3]). This provision, commonly referred to as response to intervention (RTI) (Gresham, 2002), still operates under diagnostic classifications (i.e., LD), but its use of assessment data to directly address individual student needs (Burns & VanDerHeyden, in press) is consistent with the problem-solving aspects frequently discussed in school psychology role reform literature.

RTI is most effectively accomplished through a three-tiered model of increasing intensity of service and frequency of assessment (Tilly, 2003). Table 1 is based on Reschly (2003) and displays information about the typical three tiers associated with RTI. Recent meta-analytic and previous empirical research supported the effectiveness of this model in improving both student and systemic (e.g., reducing referrals to and placements in special education, reducing the number of children retained in a grade, and increasing the percentage of children who demonstrated proficiency on state accountability tests) outcomes (Burns, Appleton, & Stehouwer, 2005; Marston, Muyskens, Lau, & Canter, 2003; Torgesen et al, 2001; Vellutino et al., 1996). However, what exactly constitutes RTI is not spelled out in the federal regulations or the research literature.

Table 1. Three Tiers of Response to Interventions

	Percent of student population	Description	Frequency of assessment
Tier 1	All students	Universal: Adherence to a research-based core curriculum in general education	Benchmark assessment at least three times per year
Tier 2	Approximately 20%	Targeted: Small-group (three to five students) interventions delivered as part of general education	At least monthly progress monitoring
Tier 3	Approximately 5%	Intensive: Individualized interventions based on problem-solving models; could include special education services	At least weekly progress monitoring and frequent informal classroom-based assessments

Given that RTI is now part of federal law, and there is a strong interest in accountability in K-12 schools (Ysseldyke et al., 2006), the overriding culture within special and general education seems to have transformed to be driven by data-based decision making. Moreover, school psychologists are well versed in relevant issues such as instructional methodology and assessment and are also probably the most qualified consumers of research in the schools (Keith, 2002), all of which make school psychologists important members of any RTI implementation team. Thus, school psychology could be operating in a culture that is more consistent with its desired role than it ever has been in the 50 plus years since the Thayer Conference. In other words, this could represent the most opportunistic time for school psychologists to make further differences in children's lives rather than making predictions about those children (Ysseldyke, 2002). As such, school psychologists interested in reforming their role from traditional test-and-place models should actively engage in RTI initiatives. However, few articles and/or studies discuss the role school psychologists should play in RTI.

Therefore, the purpose of this article is to discuss the three-tiered RTI approach and to recommend specific activities for school psychologists within and across the tiers. The effect on school psychologists' daily activities will also be discussed. Although the principles of RTI could be applied to any content area, we will focus on reading for this paper because that is the area in which the most research exists and in which most K-12 RTI initiatives occur.

#### Tier 1

The first tier of an RTI model addresses quality instruction in general education. In order for a student to access additional intervention services, we must first determine that the student is receiving quality instruction in the classroom. The National Research Council outlined key reading skills and instructional strategies for each grade. These included phonemic awareness and explicit phonics instruction in kindergarten and first grade; explicit phonics instruction, writing, and reading fluency in second grade; and fluency and comprehension instruction in third grade (Snow, Burns, & Griffin, 1998). At fourth grade, the emphasis changes from learning to read to reading to learn and is accompanied by vocabulary and comprehension instruction through middle school. In high school, it is comprehension and applications of reading (Snow et al., 1998). Thus, elementary reading instruction should involve at least 2 hours each day of a combination of explicit instruction, free-choice reading, word study, and writing (Snow et al., 1998).

Assessment within the first tier of RTI is usually in the form of benchmark data collected in the fall, winter, and spring. Although the Dynamic Indicators of Basic Early Literacy (DIBELS; Kaminski & Good, 1996) are frequently used, there are many acceptable measures and measurement systems including curriculumbased measures (which include DIBELS), but criterion measures such as the Comprehensive Inventory of Basic Skills-Revised (CIBS-R; Brigance, 1999), or even some norm-referenced measures such as the Test of Oral Word Reading Efficiency (Torgesen, Wagner, & Rashotte, 1999) also may be appropriate. In any case, the assessment system should directly assess the skill of interest (e.g., reading fluency rather than expressive or receptive language), should address both fluency and accuracy, should include multiple measures, and should be easy and efficient enough to use with all students (Jenkins, 2003).

#### School Psychological Services

School psychology involvement in Tier 1 could begin with volunteering for district curriculum committees. As members of these committees, school psychologists could find reading curricula and programs that adhere to National Research Council recommendations. Moreover, school psychologists could consult with individual teachers about the phases of instruction (i.e., planning, managing, delivering, and evaluating; Algozzine, Ysseldyke, & Elliott, 1997) and could help assure that quality instruction occurs. A conversation about specific activities within those phases would exceed the scope and sequence of this article, but readers are referred to Ysseldyke and Burns (in press) for further information.

Explicit phonic instruction has become more prevalent in schools, perhaps as a result of the National Reading Panel (2000) report, and free-choice reading is probably somewhat easily implemented. However, what constitutes word study and quality reading instruction are probably less clear to many teachers. Therefore, school psychologists could apply their skills in research consumption to discuss best practices for both. The third edition of Words Their Way (Baer, Invernizzi, Templeton, & Johnston, 2003) and the accompanying more specific books (see Baer, Johnston, & Invernizzi, 2005) provide excellent resources and specific strategies for effective word study. Readers are also referred to Joseph (1999, 2000, 2002) for practitioner-friendly descriptions of various word study techniques. For information about quality writing instruction, readers are referred to the work of Graham and colleagues (Graham & Harris, 2005; Graham, Harris, & MacArthur, 2004; Graham, Harris, & Mason, 2005).

Perhaps the most obvious role for school psychologists in Tier 1 is consultation with administrators regarding the assessment system. Assessment is fundamental and foundational to RTI (Burns, Dean, & Klar, 2004; Fuchs, 2003; Gresham, 2002), and a valid data-collection system is a prerequisite to success. Therefore, school psychologists should assist teachers and administrators in selecting tools that yield reliable and valid data. Jenkins (2003) suggests that schools select one to three measures that correlate well with the state accountability test, collect data for a cohort and compute a percentage of false negatives and true positives, and select the measures that exceeded an acceptable level (e.g., 5-10% false negatives and 90–95% true positives). Moreover, school psychologists could assist in interpreting scores and deriving criteria to identify children as proficient or not on the selected measures.

#### Tier 2

Students who do not make adequate progress in general education despite a sound core reading curriculum receive additional support in Tier 2. Fuchs, Mock, Morgan, and Young (2003) characterized existing RTI models as either standard protocol or problem solving based. In other words, most RTI models involved either a common intervention among all children who were not reading proficiently or interventions developed for individual students by problem-solving teams. However, Reschly (2003) presented both of these approaches within one model, which seemed to make conceptual sense in that both sought to improve student learning and could probably work best within a unified model (Christ, Burns, & Ysseldyke, 2005).

RTI could perhaps be best conceptualized as the systematic use of assessment data to allocate resources most efficiently in order to enhance student learning (Burns & VanDerHeyden, in press). Thus, the critical components of Tier 2 are identifying children who require remedial support and small-group interventions to accommodate the approximately 20% of the student population for whom Tier 1 services are not sufficient. Student reading progress and fluency level are usually used to identify children as requiring additional services. Therefore, reading fluency data (e.g., curriculum-based measurement for reading) are collected three times a year in Tier 1 and at least monthly in Tier 2. Those data are then compared to either a normative criterion (e.g., at or above the 25th percentile; Torgesen et al., 2001) or a benchmark standard such as those associated with the DIBELS (http://dibels.uoregon.edu/benchmark.php). Slope data are also computed and compared to normative or criterion standards, the most frequent of which is one standard deviation below the mean (Fuchs, 2003). Children who are below the standard in both reading fluency and rate of growth, called a dual discrepancy (Fuchs, 2003), would be identified as nonresponders. More specifically, this usually equates to a reading fluency level that is below the DIBELS benchmark for the child's grade and time of year, and a slope score that is more than one standard deviation below the average slope. A dual discrepancy approach to identifying children in need of intensive remediation was not influenced by gender or ethnic bias but significantly differentiated reading skills between discrepant and non-dually discrepant children (Burns & Senesac, 2005).

Children whose skills represent a dual discrepancy receive an additional 20–30 minutes of reading instruction each day presented in a small group format. The size of the group is generally three-five students (Reschly, 2003), but size should also be determined by available resources. For example, if a school has 300 students, it would be reasonable to assume that 20% would require additional instruction in Tier 2, which equals 60 children. Thus, groups with three children each would require approximately 10 hours of instruction (at 30 minutes per group) each day, whereas only 6 hours would be needed for groups of five. Of course, resources become less of an issue if a peer-assisted approach is used such as within the Peer-Assisted Learning Strategies (PALS; Fuchs, Fuchs, Mathes, & Simmons, 1997), which has been demonstrated to be an effective RTI strategy (McMaster, Fuchs, Fuchs, & Compton, 2005).

Although most Tier 2 interventions have a standardized component, which assists with efficiency, individual differences can and should occur. For example, a study that used PALS, which is a scripted program, made some changes to the protocol to accommodate individual student difficulties (McMaster et al., 2005). Moreover, Tier 2 interventions could focus on specific skill deficits to make the process even more efficient. For example, a school could develop a small-group intervention for each of the five areas of reading instruction (phonemic awareness, phonics, fluency, vocabulary, and comprehension) recognized by the National Reading Panel (2000) and identify struggling readers whose primary deficit matches one of the areas. This would allow for highly focused interventions and grouping across grades, but a developmental trend would likely develop in which younger children would more likely lack phonemic awareness, for example, and children in later grades might more frequently require fluency or vocabulary instruction (Snow et al., 1998).

#### School Psychological Services

As is the case for Tier 1, the primary roles for school psychologists in Tier 2 are assessment and data-based decision making. School psychologists should be knowledgeable in various assessment systems and which

approaches would be best for particular populations and uses. Children develop reading skills in a typical pattern ranging from phonemic awareness in kindergarten followed by knowledge that letters are represented by individual sounds within first grade, and gradually increasing the fluency within which these skills can be applied to reading and understanding what they read (Snow et al., 1998). As such, different aspects of reading should be assessed in different developmental groups. Jenkins (2003) proposed matching the reading assessment with the skill being learned. Thus, once children are identified as struggling readers, the school psychologist could consult with teachers about or actually conduct assessments to identify the area in which a small-group Tier 2 reading intervention should occur.

For example, a struggling reader in kindergarten would probably be given a phonemic awareness assessment such as initial sound fluency or phoneme segmentation fluency (PSF) and students could be administered a letter-sound fluency or nonsense word fluency (NWF) measure to assess phonetic skills. If a child scores below benchmark on a NWF measure, he or she could be administered an initial sound or phoneme segmentation fluency assessment. A child who scores within an acceptable range on the latter two scales would probably benefit from explicit phonics instruction, but a low score on the latter two measures might suggest a phonemic awareness intervention would be a better place to start.

Although targeting specific reading skills is important, or al reading fluency is an excellent measure of general reading skills and is highly correlated with comprehension through elementary schools (Silberglitt, Burns, Madyun, & Lail, 2006). Moreover, previous research has found that comprehension does not occur for most children in elementary school grades unless they read at a rate of at least 50 words per minute (Burns et al., 2002). Thus, school psychologists should probably screen potential comprehension difficulties with a fluency assessment before assessing reading comprehension. Doing so would allow for a more effective match between student need and Tier 2 intervention. Additional and more precise data can be obtained though criterion-referenced measures such as the CIBS-R. However, the measure used in Tier 2 has to be capable of monitoring student progress in the short term. Thus, using curriculum-based measures (e.g., oral reading fluency, NWF, PSF) are advantageous and norm-referenced measures are less effective. Fortunately, curriculum-based measures and DIBELS are easily administered and practitioners can find helpful information on several websites listed in Table 2.

Table 2. Websites Containing Free Information and Materials About Assessment, Intervention, or Response to Intervention in General

Websites for Assessment	Websites for Intervention	Websites for Information on RTI
www.progressmonitoring.net	http://kc.vanderbilt.edu/pals	www.wrightslaw.com/info/rti.index.htm
www.edcheckup.com	www.interventioncentral.com	www.rti.ucr.edu
www.aimsweb.com	www.whatworks.ed.gov	www.joewitt.org
www.studentprogress.org	www.fcrr.org	www.nasdse.org/projects.cfm
http://dibels.uoregon.edu		www.casecec.org/rti.htm

In addition to knowing how to collect the data, school psychologists could consult with teachers about how to interpret those data. Microsoft Excel is an excellent tool that will compute slope and measures of central tendency for both fluency and slope scores. Instructions on how to do this can be found on several websites easily obtained with a Google search as can information about several web-based data

management systems. Moreover, school psychologists should know how to determine a dual discrepancy, but should also know how to apply psychometric principles to the interpretation of the data. Christ (2006) demonstrated that slopes of curriculum-based measures data could have considerable variability especially when data are collected for less than 8 weeks. Thus, a standard error of measure exists for the slope data that likely will exceed the value of the slope until about week 8 (Christ, 2006). In other words, a slope of 1.5, which indicates the child increases her or his reading fluency by 1.5 words per minute per week, would likely have a true score range of -.5 to 3.5 or larger until data are collected for 8 weeks.

Finally, school psychologists interested in RTI could consult with district and school personnel about what interventions should occur within Tier 2. Many excellent resources exist and small-group interventions are frequently discussed in the literature. Thus, readers are referred to websites listed in Table 2 and the work of Vaughn, Wanzek, Linan-Thompson, and Murray (in press) regarding high-quality supplemental instruction.

#### Tier 3

Students who do not adequately respond to interventions provided in Tiers 1 or 2 receive daily individualized interventions and at least weekly progress monitoring in Tier 3 (Reschly, 2003). A synthesis of previous research found that approximately 20% of children within Tier 1 did not adequately respond, approximately 6% of the children in Tier 2 did not adequately respond, and less than 2% of the student population did not sufficiently respond in Tier 2 and were considered for special education eligibility (Burns et al., 2005). Again a dual discrepancy approach is used to judge student progress in Tier 2 and problemsolving teams (PST) are commonly used to identify individual interventions within Tier 3 (Burns & Ysseldyke, 2005; Fuchs et al., 2003; Tilly 2002).

Small-group instruction is a hallmark of Tier 2, but small groups may occur in Tier 3 as well. However, the size of the groups is generally two or three students and may be one-on-one support. Reading interventions in Tier 3 could occur within special or general education depending on how the tier is conceptualized. Special education could essentially serve as a Tier 4, in which the reading intervention would be in addition to the core reading instruction. However, intensive individualized services could also be provided in addition to core instruction, but should be at least 30 minutes each day. If the child sufficiently responds to this additional instructional time, then services remain within the realm of general education. However, if the individualized interventions required for the child to be successful are extensively resource intensive, then special education resources would be committed to sustain success and the child would be identified as having a disability. If RTI is perceived to be a method to identify "true LD," then special education would likely serve as a Tier 4, but if RTI is seen as a method to find interventions with which children will be successful, then special education would operate within Tier 3.

#### School Psychological Services

Although school psychologists need to address systemic issues, we also need to address learning difficulties for individual students. Thus, school psychologists need to be well informed about problemsolving processes and intensive interventions for individual learners. During professional development trainings, we are often asked to demonstrate interventions for individual students, but we usually forewarn participants about potential disappointment when we fail to reveal the intervention that will work with all students. There are many effective interventions, and several articles, journals, and books are dedicated to intervention research. Readers are referred to meta-analyses by Swanson (1999), Swanson and Sachse-Lee (2000), and Kavale and Forness (2000) for information about effective strategies among children with severe reading difficulties, but practitioners should be competent in assessment and problem-solving systems from which interventions could be derived. Thus, we recommend Shapiro (2004) and Daly, Chafouleas, and Skinner (2005) as two especially useful sources that demonstrate the use of data collection systems to identify specific interventions.

There is a relatively large literature regarding the problem-solving process and PST, with a vast majority of the articles discussing how to implement the model rather than examining the effectiveness of it (Burns & Symington, 2002). Although the relative lack of data is somewhat troubling to a researcher, the frequency of implementation articles is helpful. The lack of data is relative because several studies have been conducted and resulted in positive outcomes for individual children and school districts (Burns & Symington, 2002). A recent special issue of Remedial and Special Education (Bahr & Kovaleski, 2006) discussed current research for and practice of PST and is a helpful resource. Moreover, previous and upcoming editions of Best Practices in School Psychology, edited by A. Thomas and J. Grimes, address problem-solving teams and discuss how to implement them in practical terms (Allen & Graden, 1995; Burns, Wiley, & Viglietta, in press; Kovaleski, 2002).

Assessment data are critical to the problem-solving process and represent an important role for school psychologists within Tier 3. Recent work by Daly and colleagues (Daly, Bonfiglio, Mattson, Persampieri, & Foremann-Yates, 2005; Daly & Martens, 1994; Daly, Martens, Dool, & Hintze, 1998; Daly, Martens, Hamler, Dool, & Eckert, 1999; Daly, Witt, Martens, & Dool, 1997) suggested the use of a brief experimental analysis to identify interventions likely to be successful. A brief experimental analysis consists of rapidly implementing a series of hypothesis-driven interventions in a meaningful order (e.g., intrusiveness or ease) and withdrawing the interventions to return to baseline conditions (Barnett, Daly, Jones, & Lentz, 2004). The model is explained in some detail by Daly et al. (1997) and represents an activity within Tier 3 for which school psychologists are uniquely qualified.

#### School Psychological Services Across the Tiers

School psychologists serve primary functions including enhancing cognitive and academic skills, promoting mental health and life competencies, data-based decision making, and systems-based services (Ysseldyke et al., 2006). Thus, many specific activities for school psychologists exist within the three-tiered RTI model, but some crucial ones exist across the tiers as well. In addition to data-based decision making, assessing and ensuring implementation integrity and facilitating collaboration between home, school, and community agencies are critical roles school psychologists serve across the three tiers.

#### Implementation Integrity

Research has consistently demonstrated that interventions implemented with integrity led to enhanced student outcomes (Noell, Gresham, & Gansle, 2002; Noell, Witt, Gilbertson, Ranier, & Freeland, 1997; Wickstrom, Jones, LaFleur, & Witt, 1998). Moreover, implementation integrity provides the foundation for assessing student response within RTI (Noell & Gansle, in press). In other words, using RTI data to identify children in need of special education services and not implementing the interventions with high fidelity is akin to developing an evaluation plan and then making an eligibility decision without administering a single test (Noell & Gansle, in press).

In order to assure implementation integrity, school psychologists should focus on both the intervention and the process from which it was developed. First, interventions should be delineated into meaningful steps that are believed to be necessary and data about whether or not those steps were implemented should be collected (Noell & Gansle, in press). These data could consist of direct observation combined with other evidence, but should at the very least include some permanent products such as completed fluency probes, correctly answered comprehension questions, and created flashcards (Noell & Gansle, in press). The same approach to measuring implementation integrity could also be meta-analytically applied to the PST process and implementation of the RTI model. This is important because consistent implementation of problem-solving processes is a major obstacle to overcome before RTI can successfully be implemented (Burns, Vanderwood, & Ruby, 2005). Some critical steps of the PST process include use of a request for assistance form, collecting objective baseline data, linking research-based interventions to data, designating roles for PST members, and monitoring student progress (Burns et al., in press). A simple observation of

the PST conference could probably determine if critical steps are implemented and adhering to the PST process with fidelity will likely enhance the outcomes associated with it (Burns & Symington, 2002). Moreover, Barnett et al. (1999) suggested identifying the critical aspects of the general RTI model and examining if those are in place.

#### **Collaboration**

RTI was developed from an ecological perspective to student learning in which difficulties are hypothesized to lie within the interaction of child and environment and only systematic manipulations of the environment can rule or diagnose a child-centered deficit (Dean, Burns, Grialou, & Varro, 2006). However, most descriptions of RTI within the literature almost ignore systems external to the school (e.g., parents, community agencies), and those that discuss them usually do so by only indicating that parental involvement is required (Ikeda, Tilly, Stumme, Volmer, & Allison, 1996; Telzrow, McNamara, & Hollinger, 2000). Therefore, school psychologists could enhance the RTI process by assuring home-school collaboration occurs at ever step beyond simply notifying the parent of meetings. This is best accomplished through meaningful opportunities for parental participation as determined by matching what parents want to do with what the school perceives as feasible (Esler, Godber, & Christenson, 2002). Moreover, involving personnel from community-based mental health services on school decision-making teams, frequent contact between the agency and school, and collaborative program development in which school psychologists are part of community mental health programs will also enhance student outcomes and provide a more ecological perspective (Sheridan, Napolitano, & Swearer, 2002).

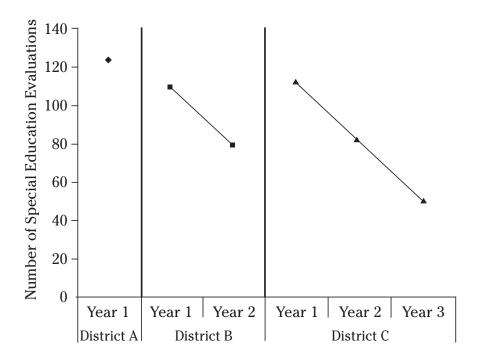
## **Effect on School Psychology**

At the 2003 National Research Center on Learning Disabilities Responsiveness-to-Intervention Symposium, Reschly posed the question: What would happen if RTI were actually implemented? The answer centered on school psychology. As stated earlier, research has consistently demonstrated that use of an RTI process enhanced student learning and improved systemic outcomes (Burns et al., 2005). However, Reschly (2003) pointed out that in school districts in Iowa, where the principles of RTI were implemented, school psychologists engaged in approximately 14 hours per week of assessment as compared to the national average of approximately 22 hours per week, with the primary tool being behavioral observation and ability testing being almost nonexistent. Moreover, hours engaged in direct intervention and problem-solving consultation were approximately 9 and 12 in Iowa, as compared to national averages of 7 and 6 hours per week respectively (Reschly, 2003).

The data mentioned above are impressive, but practitioners may question if that would be the case in their individual districts. Our experience as school psychologists before entering academia, as a trainer and a doctoral student, tells us that it would. The first author (Burns) was a school psychologist in three different school districts, and the second author (Coolong-Chaffin) worked as a school psychologist for a special education cooperative that used a four-tiered problem-solving model to address student needs. Both were engaged in RTI activities, although both may not have used the term, in that they were part of systems that utilized assessment data to match intensity of services to students needs and engaged in individual problem solving.

The three districts in which Burns was a school psychologist were quite different from each other and were unique experiences because they were not conducting RTI activities until after his arrival. District A (1993–1994) was a large urban district with a population of approximately 165,000 people and 21,852 students. District B (1994–1996) was within a rural community of approximately 12,000 people and 1,900 students. Finally, District C (1996–1999), was home to 52,500 people, and 9,500 students, and was also headquarters to a major industrial corporation. The percentage of children within the three districts who were eligible for the federal free or reduced lunch program was approximately 60% for District A, 43% for District B, and 17% for District C. Burns and his district colleagues started problem-solving teams within the first year at all three districts and more slowly implemented a curriculum-based assessment (Gickling & Havertape, 1981) data collection system, but only for children experiencing academic difficulties. As shown in Figure 1, Burns conducted more than 100 special education evaluations in the first year in each of the three districts, but the numbers of children referred to special education declined each year by an average of 31%, and the number reversed to baseline in the first year at the three districts. Burns had some administrative responsibilities in his third year at District C and actually only conducted 40 evaluations. The number reported in the figure was prorated.

Figure 1. Number of Annual Special Education Evaluations Across Three Districts Before and After Implementing a Response-to-Intervention Approach



The special education cooperative where Coolong-Chaffin was employed served just fewer than 10,000 students across five districts in a rural area of a midwestern state. She worked in two of these schools. The cooperative spanned two counties where the number of students eligible for free or reduced price lunches was 17% in one county and 36% in the other. Overall, the cooperative LD prevalence rate was 2.54% versus 3.80% for the state in the 2004–2005 school year. Since implementing the problem-solving approach, LD rates decreased more than 40% in the districts, while decreasing slightly for the state as a whole. Reduced time spent conducting special education evaluations allowed time for more systemwide activities such as chairing the PSTs in both schools where she worked, consulting with general education teachers about academic and behavioral needs of students, helping a building curriculum committee select an evidencebased math curriculum for low achieving students, conducting staff development sessions regarding effective classroom behavior management and instructional strategies, and collaborating with community mental health agencies to serve the shared students.

Although the data shared within this article are not scientific, the data do suggest that RTI reduced time that both authors engaged in special education evaluations and freed time to do more desirable activities, the effects of which were noted in several very different school districts.

Some practitioners may worry about the effect an RTI approach may have on the profession. For example, some may be concerned that a de-emphasis of intelligence and achievement testing will make school

psychologists expendable. However, the implementation of the problem-solving model in Minneapolis, one of the more famous large-scale RTI initiatives, resulted in more school psychologists being hired and employed in that district than in years prior. In fact, the number almost doubled in just over 10 years (Lau et al., 2006). Our collective experience suggests that whether school psychologists work in a district that has a history of RTI practices or are starting RTI initiatives, the role of the school psychologist can be directly and positively influenced by utilizing an RTI approach.

School psychologists are uniquely qualified to lead a national movement toward RTI, but RTI is not an end in and of itself. RTI is a process to enhance student learning for all children. For school psychologists, RTI could finally be the venue to implement the consultative problem-solving role that has been called for by scholars and practitioners alike.

#### References

- Algozzine, B. S., Ysseldyke, J. E., & Elliott, J. (1997). Strategies and tactics for effective instruction. Longmont, CO: Sopris West.
- Allen, S. J., & Graden, J. L. (1995). Best practices in collaborative problem solving for intervention design. In A. Thomas & J. Grimes (Eds.), Best practices in school psychology III (pp. 667–678). Washington, DC: National Association of School Psychologists.
- Bahr, M. W., & Kovaleski, J. F. (2006). The need for problem-solving teams: Introduction to the special series. Remedial and Special Education, 27, 2–5.
- Barnett, D. W., Bell, S. H., Gilkey, C. M., Lentz, F. E., Graden, J. L., Stone, C. M., et al. (1999). The promise of meaningful eligibility determination: Functional intervention-based multifactored preschool evaluation. Journal of Special Education, 33, 112–124.
- Barnett, D. W., Daly, E. J., Jones, K. M., & Lentz, F. E. (2004). Response-to-intervention: Empirically based special service decisions from single-case designs of increasing and decreasing intensity. The Journal of Special Education, 38, 66–79.
- Bear, D. R., Invernizzi, M., Templeton, S. R., & Johnston, F. (2003). Words their way (3rd ed.). Upper Saddle River, NJ: Prentice Hall.
- Bear, D. R., Johnston, F., & Invernizzi, M. (2005). Words their way: Letter and picture sorts for emergent spellers. Upper Saddle River, NJ: Prentice Hall.
- Bradley-Johnson, S., & Dean, V. J. (2000). Role change for school psychology: The challenge continues in the new millennium. Psychology in the Schools, 37, 1–5.
- Brigance, A. H. (1999). Comprehensive Inventory of Basic Skills—Revised. North Billerica, MA: Curriculum Associates.
- Burns, M. K., Appleton, J. J., Stehouwer, J. D. (2005). Meta-analytic review of responsiveness-to-intervention research: Examining field-based and research-implemented models. Journal of Psychoeducational Assessment, 23, 381-394.
- Burns, M. K., Dean, V. J., & Klar, S. (2004). Using curriculum-based assessment in the responsiveness-tointervention diagnostic model for learning disabilities. Assessment for Effective Intervention, 29(3), 47–56.
- Burns, M. K., & Senesac, B. J. (2005). Comparison of dual discrepancy criteria for diagnosis of unresponsiveness to intervention. Journal of School Psychology, 43, 393–406.
- Burns, M. K., & Symington, T. (2002). A meta-analysis of pre-referral intervention teams: Student and systemic outcomes. Journal of School Psychology, 40, 437–447.
- Burns, M. K., & VanDerHeyden, A. M. (in press). Using response to intervention to assess learning disabilities: Introduction to the special series [Special issue]. Assessment for Effective Intervention.
- Burns, M. K., Vanderwood, M., & Ruby, S. (2005). Evaluating the readiness of prereferral intervention teams for use in a problem-solving model: Review of three levels of research. School Psychology Quarterly, 20,
- Burns, M. K., Wiley, H. I., & Viglietta, E. (in press). Best practices in facilitating effective problem-solving teams. In A. Thomas & J. Grimes (Eds.), Best practices in school psychology V. Bethesda, MD: National Association of School Psychologists.

- Burns, M. K., & Ysseldyke, J. E. (2005). Comparison of existing response-to-intervention models to identify and answer implementation questions. Communiqué, 34. Retrieved October 11, 2006, from http://www.nasponline.org/publications/cg345rti\_burns.html
- Christ, T. J. (2006). Short-term estimates of growth using curriculum-based measurement of oral reading fluency: Estimating standard error of the slope to construct confidence intervals. School Psychology Review, 35, 128–133.
- Christ, T. J., Burns, M. K., & Ysseldyke, J. E. (2005). Conceptual confusion within response-to-intervention vernacular: Clarifying meaningful differences. Communiqué, 34(3), 1–2.
- Daly, E. J., III, Bonfiglio, C. M., Mattson, T., Persampieri, M., & Foremann-Yates, K. (2005). Refining the experimental analysis of academic skills deficits: Part I. An investigation of variables that affect generalized oral reading performance. Journal of Applied Behavior Analysis, 38, 485–497.
- Daly, E. J., III, Chafouleas, S. M., & Skinner, C. H. (2005). Interventions for reading problems: Designing and evaluating effective strategies. New York: Guilford Press.
- Daly, E. J., III, & Martens, B. K. (1994). A comparison of three interventions for increasing oral reading performance: Application of the instructional hierarchy. Journal of Applied Behavior Analysis, 27, 459-469.
- Daly, E. J., III, Martens, B. K., Dool, E. J., & Hintze, J. M. (1998). Using brief functional analysis to select interventions for oral reading. Journal of Behavioral Education, 8, 203–218.
- Daly, E. J., III, Martens, B. K., Hamler, K. R., Dool, E. J., & Eckert, T. L. (1999). A brief experimental analysis for identifying instructional components needed to improve oral reading fluency. Journal of Applied Behavior Analysis, 32, 83-94.
- Daly, E. J., Witt, J. C., Martens, B.K., & Dool, E.J. (1997). A model for conducting a functional analysis of academic performance problems. School Psychology Review, 26, 554–574.
- Dean, V. J., Burns, M. K., Grialou, T., & Varro, P. J. (2006). Comparison of ecological validity of learning disabilities diagnostic models. Psychology in the Schools, 43, 157–168.
- Deno, S. L. (2002). Problem solving as "best practice." In A. Thomas & J. Grimes (Eds.), Best practices in school psychology IV (pp. 37–55). Bethesda, MD: National Association of School Psychologists.
- Esler, A. N., Godber, Y., & Christenson, S. L. (2002). Best practices in supporting home-school collaboration. In A. Thomas & J. Grimes (Eds.), Best practices in school psychology IV (pp. 389–411). Bethesda, MD: National Association of School Psychologists.
- Fuchs, D., Fuchs, L. S., Mathes, P. G., & Simmons, D. C. (1997). Peer-assisted learning strategies: Making classrooms more responsive to diversity. American Educational Research Journal, 34, 174–206.
- Fuchs, D., Mock, D., Morgan, P. L., & Young, C. L. (2003). Responsiveness-to-intervention: Definitions, evidence, and implications for the learning disabilities construct. Learning Disabilities Research & Practice, 18, 157-171.
- Fuchs, L. S. (2003). Assessing intervention responsiveness: Conceptual and technical issues. *Learning* Disabilities Research and Practice, 18, 172–186.
- Gickling, E. E., & Havertape, S. (1981). Curriculum-based assessment. Minneapolis, MN: School Psychology Inservice Training Network.
- Graham, S., & Harris, K. R. (2005). Improving the writing performance of young struggling writers: Theoretical and programmatic research from the center on accelerating student learning. Journal of Special Education, 39, 19–33.
- Graham, S., Harris, K. R., & MacArthur, C. (2004). Writing instruction. San Diego, CA: Elsevier Academic Press.
- Graham, S., Harris, K. R., & Mason, L. (2005). Improving the writing performance, knowledge, and selfefficacy of struggling young writers: The effects of self-regulated strategy development. Contemporary Educational Psychology, 30, 207–241.
- Gresham, F. M. (2002). Responsiveness to intervention: An alternative approach to the identification of learning disabilities. In R. Bradley & L. Danielson (Eds.), Identification of learning disabilities: Research to practice (pp. 467–519). Mahwah, NJ: Erlbaum.
- Ikeda, M.J., Tilly, W. D., Stumme, J., Volmer, L., & Allison, R. (1996). Agency-wide implementation of problemsolving consultation: Foundations, current implementation, and future directions. School Psychology Quarterly, 11, 228-243.

- Jenkins, J. (2003, December). Candidate measures for screening at-risk students. Paper presented at the National Research Center on Learning Disabilities Responsiveness-to-Intervention Symposium, Kansas City, MO.
- Joseph, L. M. (1999). Word boxes help children with learning disabilities identify and spell words. The Reading Teacher, 52, 348-356.
- Joseph, L. M. (2000). Using word boxes as a large group phonic approach in a first grade classroom. Reading Horizons, 41, 117–127.
- Joseph, L. M. (2002). Facilitating word recognition and spelling using word boxes and word sort phonic strategies. School Psychology Review, 31, 122-129.
- Kaminski, R., & Good, R. (1996). Toward a technology for assessing basic early literacy skills. School Psychology Review, 25, 215-227.
- Kavale, K. A. & Forness, S. R. (2000). What definitions of learning disability say and don't say: A critical analysis. Journal of Learning Disabilities, 33, 239–256.
- Keith, T. Z. (2002). Best practices in applied research. In A. Thomas & J. Grimes (Eds.), Best practices in school psychology IV (pp. 91–102). Bethesda, MD: National Association of School Psychologists.
- Kovaleski, J. F. (2002). Best practices in operating pre-referral intervention teams. In A. Thomas & J. Grimes (Eds.), Best practices in school psychology IV (pp. 645–655). Bethesda, MD: National Association of School Psychologists.
- Lau, M. Y., Sieler, J. D., Muyskens, P., Canter, A., Vankeuren, B., & Marston, D. (2006). Perspectives on the use of the problem-solving model from the viewpoint of a school psychologist, administrator, and teacher from a large midwest urban school district. Psychology in the Schools, 43, 117–127.
- Marston, D., Muyskens, P., Lau, M., & Canter, A. (2003). Problem-solving model for decision making with high-incidence disabilities: The Minneapolis experience. Learning Disabilities Research & Practice, 18(3), 187-200.
- McMaster, K. L., Fuchs, D., Fuchs, L. S., & Compton, D. L. (2005). Responding to nonresponders: An experimental field trial of identification and intervention methods. Exceptional Children, 71, 445–463.
- National Reading Panel. (2000). Report of the National Reading Panel: Teaching children to read. Washington, DC: U.S. Department of Health and Human Services.
- Noell, G. H., & Gansle, K. A. (in press). Assuring the form has substance: Treatment plan implementation as the foundation of assessing response to intervention. Assessment for Effective Intervention.
- Noell, G. H., Gresham, F. M., & Gansle, K. A. (2002). Does treatment integrity matter? A preliminary investigation of instructional implementation and mathematics performance. Journal of Behavioral Education, 11, 51-67.
- Noell, G. H., Witt, J. C., Gilbertson, D. N., Ranier, D. D., & Freeland, J. T. (1997). Increasing teacher intervention implementation in general education settings through consultation and performance feedback. School Psychology Quarterly, 12, 77–88.
- Reschly, D. J. (2003, December). What if LD identification changed to reflect research findings? Consequences of LD identification changes. Paper presented at the Responsiveness-to-Intervention Symposium, Kansas
- Reschly, D. J., & Ysseldyke, J. E. (2002). Paradigm shift: The past is not the future. In A. Thomas & J. Grimes (Eds.), Best practices in school psychology IV (pp. 3–20). Bethesda, MD: National Association of School Psychologists.
- Shapiro, E.S. (2004). Academic skills problems: Direct assessment and intervention (3rd ed.). New York: Guilford Press.
- Sheridan, S. M., Napolitano, S. A., & Swearer, S. M. (2002). Best practices in school-community partnerships. In A. Thomas & J. Grimes (Eds.), Best practices in school psychology IV (pp. 321–336). Bethesda, MD: National Association of School Psychologists.
- Silberglitt, B., Burns, M. K., Madyun, N. H., & Lail, K. E. (2006). Relationship of reading fluency assessment data with state accountability test scores: A longitudinal comparison of grade levels. Psychology in the Schools, 43(5), 527-535.
- Snow, C., Burns, M., & Griffin, P. (1998). Preventing reading difficulties in young children. Washington, DC: National Academies Press.

- Swanson, H. L. (1999). Reading research for students with LD: A meta-analysis in intervention outcomes. *Journal of Learning Disabilities*, 32, 504–532.
- Swanson, H. L., & Sachse-Lee, C. (2000). A meta-analysis of single-subject-design intervention research for students with LD. Journal of Learning Disabilities, 33, 114–136.
- Telzrow, C. F., McNamara, K., & Hollinger, C. L. (2000). Fidelity of problem-solving implementation and relationship to student performance. School Psychology Review, 29, 443–461.
- Tilly, W. D., III. (2002). Best practices in school psychology as a problem-solving enterprise. In A. Thomas & J. Grimes (Eds.), Best practices in school psychology IV (pp. 21–36). Bethesda, MD: National Association of School Psychologists.
- Tilly, W.D., III. (2003). How many tiers are needed for successful prevention and early intervention? Heartland Area Education Agency's evolution from four to three tiers. Paper presented at the National Research Center on Learning Disabilities Responsiveness-to-Intervention Symposium, Kansas City, MO.
- Torgesen, J. K., Alexander, A. W., Wagner, R. K., Rashotte, C. A., Voeller, K. K. S., & Conway, T. (2001). Intensive remedial instruction for children with severe reading disabilities: Immediate and long-term outcomes for two instructional approaches. Journal of Learning Disabilities, 34, 33-58.
- Torgesen, J., Wagner, R., & Rashotte, C. (1999). Test of word reading efficiency. Austin, TX: PRO-ED.
- VanVoorhis, R. W., & Levinson, E. M. (2006). Job satisfaction among school psychologists: A meta-analysis. School Psychology Quarterly, 21, 77–90.
- Vaughn, S., Wanzek, J., Linan-Thompson, S., & Murray, C. (in press). Monitoring response to supplemental services for students at-risk for reading difficulties: High and low responders. In S. R. Jimerson, M. K. Burns, & A. M. VanDerHeyden (Eds.), The handbook of response-to-intervention: The science and practice of assessment and intervention. New York: Springer.
- Vellutino, F. R., Scanlon, D. M., Sipay, E. R., Small, S., Chen, R., Pratt, A., et al. (1996). Cognitive profiles of difficulty-to-remediate and readily remediated poor readers: Early intervention as a vehicle for distinguishing between cognitive and experimental deficits as basic causes of specific reading disability. Journal of Educational Psychology, 88, 601–638.
- Wickstrom, K. F., Jones, K. M., LaFleur, L. H., & Witt, J. C. (1998). An analysis of treatment integrity in schoolbased behavioral consultation. School Psychology Quarterly, 13, 141–154.
- Ysseldyke, J. E. (2001). Reflections on a research career: Generalizations from 25 years of research on assessment and instructional decision-making. Exceptional Children, 67, 295–310.
- Ysseldyke, J. E. (2002, March). Invited presidential address. Presented at the annual convention of the National Association of School Psychologists, Chicago, IL.
- Ysseldyke, J., & Burns, M. K. (in press). Functional assessment of instructional environments for the purpose of making data-driven instructional decisions. In C. R. Reynolds & T. B. Gutkin (Eds.) Handbook of school psychology. Hoboken, NJ: John Wiley.
- Ysseldyke, J., Burns, M., Dawson, P., Kelley, B., Morrison, D., Ortiz, S., et al. (2006). School psychology: A blueprint for training in practice III. Bethesda, MD: National Association of School Psychologists.