The California School Psychologist

2005, Volume 10

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The California School Psychologist, Vol. 10, pp. 65-79, 2005
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Reflections on Practice Within the Heartland Problem-Solving Model: The Perceived Value of Direct Assessment of Student Needs

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Considerable variation exists across response-to-intervention (RTI) approaches. There is currently insufficient research on outcomes associated with these different RTI approaches to inform decision-making. However, school psychologists who are asked to work within an RTI model need guidance to select an approach that has a high likelihood of leading to optimal student outcomes. This article describes, illustrates, and supports two aspects of the RTI approach used at the Heartland Area Education Agency, from the perspective of a practicing school psychologist. These two aspects include (a) intervention selection that is based on an individualized problem analysis, and (b) the identification of specific instructional needs as a part of the special education eligibility determination process. An analysis of how the Heartland Problem-Solving Model (PSM) was applied to address the needs of a kindergarten student is provided to illustrate these features. Criticisms and challenges associated with the Heartland PSM are noted, along with guidance for future RTI model research and implementation.

Key Words: RTI, Heartland Problem-Solving Model, Special Education Eligibility

Widespread concern with traditional models for the identification of students with learning disabilities (LDs), as evidenced by recommendations made by those involved in the LD Roundtable (2002) and the LD Summit (Bradley, Danielson, & Hallahan, 2002) have highlighted the need to develop and implement alternative identification models. Given the reference to an alternate response-to-intervention (RTI) method in the reauthorization of the *Individuals with Disabilities Education Improvement Act* (IDEIA, 2004), it is likely that many school districts will consider implementing such a model in the near future. Although information is available on changes in the percentages of students receiving special education services that are associated with RTI approaches (Grimes & Kurns, 2003; Hartman & Fay, 1996; Marston, Muyskens, Lau, & Canter, 2003), there has been relatively little evaluation to date of effects of RTI model implementation on student achievement outcomes (D. Fuchs, Mock, Morgan, & Young, 2003). It is clear that more data on the effects of various RTI approaches are needed to inform practice; however, school psychologists who may be asked to implement these approaches in the very near future need guidance now on how to promote the best possible outcomes for students. The purpose of this article is to highlight and support, through case study analysis, two aspects of the Heartland Problem-Solving Model (PSM) considered to be important from the perspective of a practicing school psychologist.

Identified Differences of Various RTI Approaches

In a recent symposium on RTI, several researchers and practitioners described various features and outcomes of RTI approaches (National Research Center on Learning Disabilities, 2003). Although all of the described approaches included screening procedures, intervention implementation, progress monitoring, and evaluation of student responsiveness, they differed in a variety of ways, such as the

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number of intervention levels or tiers, the persons involved in developing interventions, the length of time in which interventions were implemented, how students were selected for intervention, among other differences. In the current paper, the perceived value of two aspects of the Heartland PSM are described and illustrated. These include: (a) intervention selection based on a careful problem analysis; and (b) consideration of student instructional needs as a part of the special education eligibility determination process. These aspects were chosen based on the author's perception of their importance after having worked as a school psychologist within the Heartland PSM. The following sections include a description of how these selected aspects vary across RTI approaches, as well as an analysis of the research available on outcomes associated with these differences.

The intervention selection process. One general RTI approach involves the use of a similar intervention for all students with similar academic needs; this has been referred to as the "standard protocol" approach (D. Fuchs et al., 2003, p. 157). Using this approach, students who are identified as low-achieving within a given content area receive the same empirically supported intervention for a given period of time. The extent to which the intervention improves achievement is then determined separately for each student. By definition, interventions selected using this approach are empirically supported. Potential benefits of this approach in comparison to others are that: (a) treatment integrity is more likely, given that only one intervention must be mastered and applied by educators; and (b) research-based interventions are applied to a large group of students (D. Fuchs et al., 2003).

An alternative RTI approach involves the selection of an intervention that is tailored to individual student needs, as determined through a more comprehensive problem analysis. Heartland Area Education Agency (Heartland AEA) and those working within the Pennsylvania Instructional Support Team project represent groups that have used this approach, the former of which has used curriculum-based evaluation (CBE; Howell & Nolet, 2000), and the latter of which has used curriculum-based assessment (CBA; Gravois & Gickling, 2002) to analyze individual student problems. CBE has been described more specifically as a process that involves systematic investigation of the potential causes for student academic and behavioral difficulties, validation of those causes, and linking the findings to associated interventions (Howell et al., 2002). CBA has been described as a process for matching instruction to a student's particular skill level within the given curriculum, in order to teach to the student's current skill level and prior knowledge (Gravois & Gickling, 2002). The problem analysis is intended to inform the selection of an intervention with a high probability of success for the individual student. Both CBE and CBA involve examining the curriculum, instruction, and/or environment in relation to the student's current strengths and weaknesses, as determined through direct measures of student skill and knowledge.

The majority of research studies that have examined RTI approaches have addressed response to reading interventions, in particular. This is likely due to the fact that there has been more systematic investigation of intervention strategies for reading than for other content areas (Seethaler & Fuchs, 2005). However, even within this more heavily investigated area, controlled investigations that compared student outcomes associated with different intervention selection methods (i.e., standard protocol and problem-solving) were not identified.

Despite this lack of controlled comparative investigation, most related research studies tend to highlight the need for tailoring research-based reading interventions to the individual needs of the child, regardless of whether the studies have been classified as involving a "standard protocol" or "problem-solving" approach by outside researchers. For instance, Vellutino et al. (1996) has been classified as an example of the standard protocol approach (D. Fuchs et al., 2003); however, the intervention under investigation in the study involved the provision of highly individualized instruction. In fact, videotapes of tutoring sessions (i.e., the "standard protocol") were reviewed by the researchers to

ensure that instruction was tailored to the individual needs of the child. Results indicated that many students made substantial progress during intervention implementation. Although limited in power by a small sample size ($n = 56$), McMaster, Fuchs, Fuchs, and Compton (2003) suggested that their study supported an individualized one-on-one tutoring intervention as most effective. Vaughn, Linan-Thompson, and Hickman (2003) found that many students responded in a relatively short amount of time to a highly prescribed tutoring intervention that was provided to groups of three students at a time; however, they eventually altered the intervention for those students who were failing to respond in order to better address individual student needs. Altogether, these studies appear to highlight the value of individually tailoring interventions to specific student needs.

A final approach to intervention selection that has been suggested for use within an RTI framework involves analysis of individual student cognitive processing deficits. Naglieri (2004) has proposed the use of an associated Planning, Attention, Simultaneous, and Sequential Processing (PASS) theory to guide intervention planning. This theory guided the development of the Cognitive Assessment System (Naglieri & Das, 1997). Only two research studies were identified that examined the effectiveness of this approach. Although one study suggested that cognitive strategy instruction was differentially effective for students who scored low on the planning component of the Cognitive Assessment System, the study included a very small sample ($n = 19$; Naglieri & Johnson, 2000). In a more recent study of 267 students, researchers found that a selected intervention was not differentially effective across students with specific cognitive weaknesses (Kroesbergen, Van Luit, & Naglieri, 2003). Given that only two research studies were identified, it appears that more research is needed to investigate whether assessment of cognitive processing deficits can provide a link to interventions that are more effective than others for particular students.

Criteria used to determine eligibility for special education. A second important difference across RTI approaches is the extent to which students' instructional needs are determined prior to making a special education eligibility decision. L. Fuchs, Fuchs, and Speece (2002) suggested using evidence of a "dual-discrepancy" to determine whether a student has an LD and is therefore in need of special education services. They suggested using curriculum-based measurement (CBM) to determine both a student's achievement level and rate of growth. A demonstrated discrepancy from peers in both achievement level and growth rate (i.e., "dual discrepancy") following the implementation of an intervention is then considered necessary for students to be eligible for special education services. An earlier model of this approach included a trial of special education services to determine whether the services were effective prior to fully entitling a student; if they were not effective, the child would begin receiving general education services alone without additional intervention support (L. Fuchs & Fuchs, 1997). L. Fuchs et al. (2002) recently argued that it is likely that the students who fail to respond to this trial period are those most in need of special education services, and therefore they suggest that a trial special education period be used to collect more information to decide what programming is most appropriate for the child (e.g., general education with accommodations, more intense special education services, etc.). Using this approach, instructional needs are not identified before a student begins to receive special education services.

A contrasting approach requires the identification of the conditions under which a student is successful prior to the initiation of special education services. Within the Heartland Problem-Solving Model (Heartland PSM), eligibility for special education services is considered only after a student's instructional needs have been carefully identified. It is important to note that the Heartland PSM is intended to address all types of educational problems; minor and severe, short-term and long-term, academic and social-behavioral, and not just the educational problems of students who are being considered for possible special education services. However, those students who, based on a careful analy-

sis of their needs, have demonstrated that they require a substantial amount of resources to make appropriate progress are determined to be "entitled individuals." It is likely that many students identified as "entitled individuals" at Heartland AEA would be considered students with LDs in other places. Within the Heartland PSM, the following criteria must be met for a student to be eligible for special education entitlement: (a) a substantial discrepancy in an academic or social-behavioral area given equal or enhanced opportunities for the student to meet the given standard; (b) an insufficient increase in a student's rate of learning following general education intervention, or the interventions needed to improve learning rate are too demanding to be implemented with integrity using general education services alone; and (c) the conditions under which the student does make progress within the area of concern must be identified (Heartland, 2002). In contrast to the dual-discrepancy approach, this model does not necessarily require a substantial deficit in growth rate for eligibility; instead, one must demonstrate what is needed to improve student learning. If what is needed is too extreme to be provided through general education services alone, the child may be considered eligible for special education services.

Similar to the lack of controlled research identified comparing the effectiveness of the two different intervention selection methods, no research was identified that compared student outcomes associated with the various eligibility criteria evident across RTI approaches. However, information on special education entitlement rates associated with RTI implementation was found. In Iowa, where many districts require the identification of specific student instructional needs prior to entitlement, there has been a slight increase in rates of students receiving special education services, which parallels increases identified nationally (Grimes & Kurns, 2003). In the Minneapolis Public Schools, a demonstrated discrepancy in student achievement and a need for intervention beyond what can be provided in general education are necessary to meet special education eligibility criteria; however, documentation of the conditions under which a student is successful is not required. Rates of students with mild academic disabilities have remained around 7% over time within this school district (Marston et al., 2003). More research is needed to answer questions about the value added to student outcomes as a result of including the identification of specific instructional needs as a part of special education eligibility decisions.

Without sufficient research, school psychologists will need to use their best judgment in advocating for various aspects of RTI approaches. The purpose of the following section is to describe the Heartland PSM, in general, and illustrate through case example the value in how interventions are selected and how instructional needs are identified within the Heartland RTI approach.

The Heartland Problem-Solving Model (Heartland PSM): A General Overview

Since the early 1990s, Heartland AEA has been implementing a unique model for the delivery of school psychology and special education services (Ikeda et al., 2002). The intent of the model is to match each student's academic and social-behavioral learning needs with the resources available through general education services (and special education services, if deemed necessary). When a student's academic performance or behavior is substantially discrepant from a given standard, typically that of peers, the student is referred to a problem-solving team (i.e., building assistance team or "BAT"). This team works to identify the resources needed to improve the student's learning through a problem-solving process. This process involves the following steps: (a) an individual problem is identified and analyzed; (b) an individualized intervention plan is developed based on the results of the problem analysis, such that the intervention plan has a high probability of leading to student success; (c) the intervention is implemented and student outcomes are monitored; and (d) an evaluation of the results is conducted to determine whether to continue or modify the plan. When it appears that a problem is

particularly severe and may require significant resources, CBE (Howell & Nolet, 2000) is used to guide an analysis of the problem. CBE involves analysis of alterable variables (as opposed to innate student characteristics) in order to identify an intervention that can be implemented to positively influence student behavior and learning. For a more comprehensive description of the Heartland PSM, readers are encouraged to examine Ikeda et al. and Tilly (2002). A summary of reported outcomes of the Heartland model is presented in D. Fuchs et al. (2003).

Although the Heartland PSM has in the past focused primarily on individual student academic and social-behavioral needs, it is currently undergoing revisions to include problem-solving efforts to address school-wide needs. Using a school-wide approach, all students in the school are identified as either (a) meeting expectations (*benchmark*), (b) needing strategic intervention (*strategic*), or (c) needing intensive intervention (*intensive*), based on their performance on academic or behavioral screening measures that are evaluated against an external standard. Depending on the percentage of students meeting the externally determined expectations, school and Heartland AEA personnel collaboratively analyze student needs in relation to the curriculum, instruction, and the environment at either a school-wide, small group, or individual student level. The school-wide model is intended to ensure that the school, as a whole, is meeting high external standards, and to assist with addressing individual student skill deficits more efficiently through group intervention. At the same time, the revised model maintains a commitment to the provision of systematic, individualized problem analysis and intervention for students displaying severe problems and/or unique educational needs. For a more detailed description of this revised model, readers are encouraged to examine Grimes and Kurns (2003). Although limited research on student outcomes associated with this model are currently available, the model represents an application of suggestions provided by researchers for addressing academic and social-behavior skills in educational settings (Simmons, Kame'enui, & Good, 2002; Sugai & Horner, 1999; Vaughn & Briggs, 2003).

HEARTLAND PSM CASE STUDY: JOSHUA

The following case study illustrates how group and individual problem-solving was used to address the needs of a kindergarten student (Joshua) within Heartland AEA. It is important to note that this case study was completed by someone relatively new to the agency; individuals with more experience working within the Heartland PSM may have handled the case somewhat differently. However, because this was completed by someone new to the agency, it may more accurately reflect some of the challenges that those just beginning to implement a similar model may encounter in practice. The school psychologist who completed this case study had received substantial problem-solving training at Heartland, and was participating in regular supervision meetings.

Screening for early literacy problems was conducted at Joshua's school using the *Dynamic Indicators of Basic Early Literacy Skills* (DIBELS; Kaminski & Good, 1998). The DIBELS are a set of brief early literacy skill measures that can help identify students in need of additional intervention (Hintze, Ryan, & Stoner, 2003). Using the DIBELS, students are classified as either at benchmark, in need of strategic intervention, or in need of intensive intervention. At the given school, 18% of the kindergarten students were selected for intervention based on a combination of failing to meet the associated DIBELS benchmark levels, lack of progress as measured by fall and mid-year DIBELS scores, and teacher recommendation. Based on a brief consultation with a reading expert, school personnel decided to have several kindergarten teacher associates (i.e., paraprofessionals) trained to administer *Road to the Code: A Phonological Awareness Program for Young Children*® (Blachman, Ball, Black, & Tangel, 2000). Although the effectiveness of this program has not been investigated in its current form, it was developed out of several research studies pointing to the effectiveness of teaching

segmenting, blending, and other phonemic awareness skills to young children (Ball & Blachman, 1991; Blachman, Ball, Black, & Tangel, 1994; Torgesen, Morgan, & Davis, 1992). Target students were provided this instruction for 15 to 20 minutes a day, four days a week, across five weeks. Part way through the intervention, Joshua was identified as a student who was not responding. The school psychologist was then invited to provide assistance to the problem-solving team, which consisted of Joshua's parents, teacher, teacher associate, and a school counselor.

Problem Identification

Joshua's teacher expressed concern with both Joshua's early literacy skill development and his difficulties attending to classroom instruction. DIBELS results indicated that Joshua remained substantially discrepant from his peers' performance from five weeks earlier (see Figures 1, 2, and 3 for DIBELS results). The school psychologist conducted an observation of Joshua during an individual work time that transitioned into a group instruction time using a momentary time-sampling technique. Joshua's eyes were on the teacher for 48% of the moments sampled; randomly selected male peers (n = 12) had their eyes on the teacher for 65% of the observed intervals. These data were used to verify that Joshua was discrepant from his peers in both literacy skill development and attention-related skills.

Problem Analysis

His teacher indicated that Joshua had particular difficulty demonstrating eye contact during group instruction. Joshua's attention difficulties specific to group instruction time were verified through a

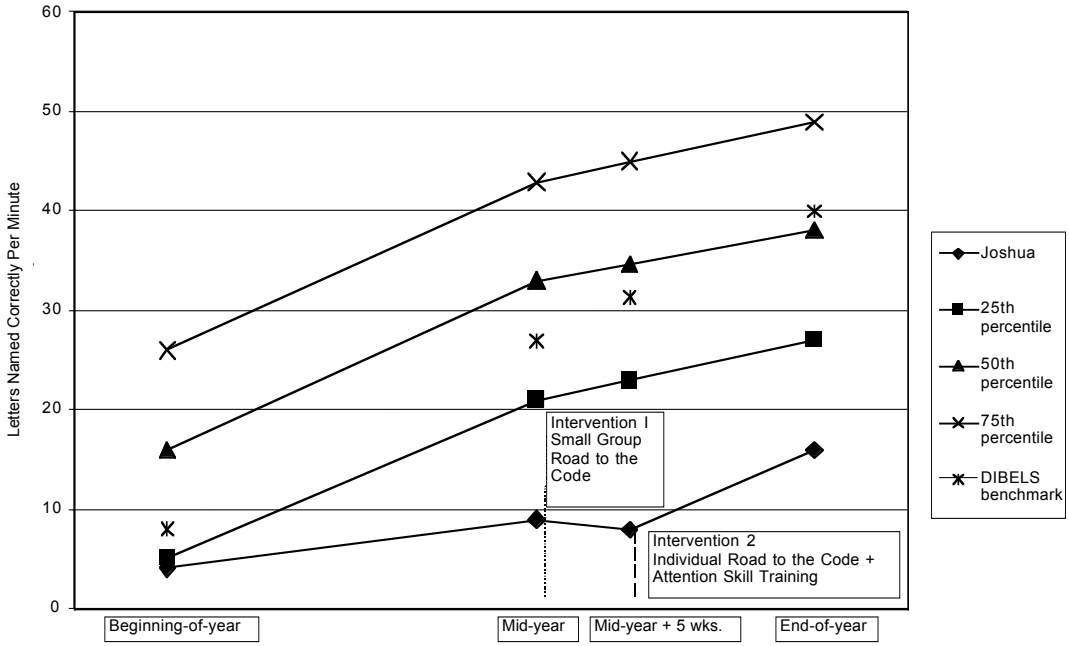

Figure 1.
Letter Naming Fluency Performance
Note. Only Joshua was tested at the mid-year + five week point; the other data points at this time are estimates based on linear growth for the rest of the class.

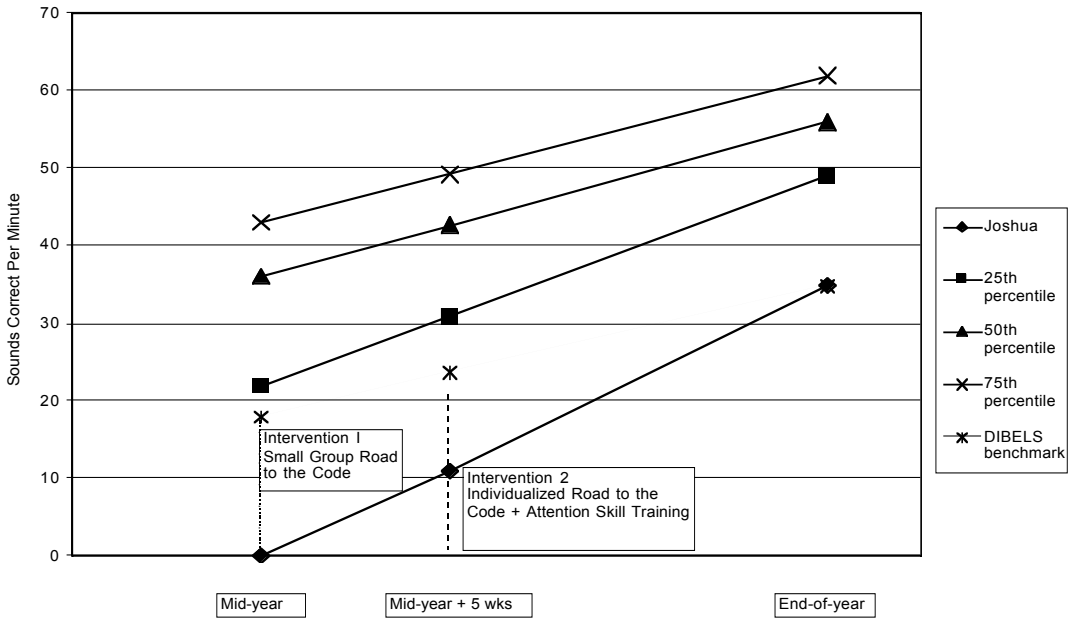

Figure 2.
Phoneme Segmentation Fluency Performance
Note. Only Joshua was tested at the mid-year + five week point; the other data points at this time are estimates based on linear growth for the rest of the class.

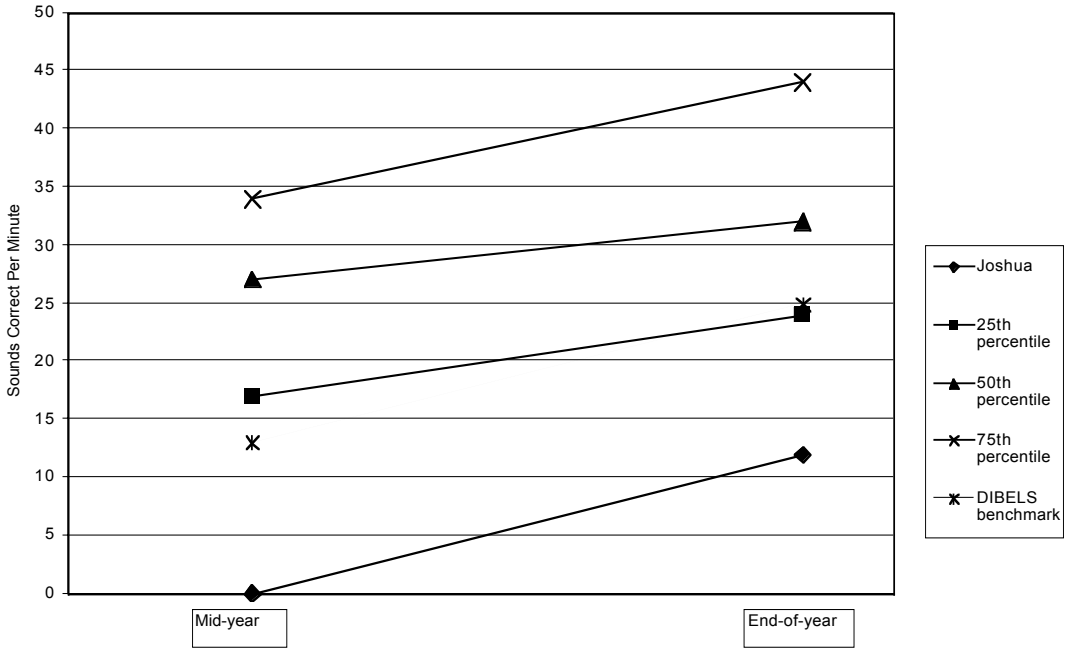

Figure 3.
Nonsense Word Fluency Performance

comparison of structured observations of Joshua's on-task behavior across individual seatwork and group instruction time. During the observations, the teacher engaged in a variety of positive classroom management strategies including tactics such as saying "one-two-three, eyes on me" to which the students replied in chorus "one-two-three, eyes on you." Joshua rarely responded to this cue. The teacher also provided many students, including Joshua, positive comments such as "I like the way you are listening." She reported that at one point she had very briefly implemented a simple behavior plan for Joshua (i.e., stickers on a sheet for behaving appropriately during intervals across the day) that was unsuccessful. With these data, the school psychologist had reason to believe that despite instruction that was adequate for teaching other students to maintain eye contact, Joshua was failing to consistently demonstrate this skill.

The school psychologist was informed that there was not a systematic early literacy instruction program in place at the school. She briefly examined the *Road to the Code* program materials and informally observed how this program was administered. Joshua appeared to require substantial prompting and direction to stay on-task during the observation. His phonemic awareness skills were examined by sampling his ability to blend sounds at the word and syllable levels (on which he was successful), followed by an investigation of whether he could blend sounds at the sound level (on which he was unsuccessful). He could not segment successfully at any of these levels.

Intervention Planning

Given that the segmenting and blending skills that Joshua currently lacked were addressed in the *Road to the Code* program, the team decided to continue providing this intervention on a 1:1 basis by the associate for 20-minute sessions three times a week. It was unclear whether instruction in eye contact had been sufficient for Joshua to acquire this skill; therefore, the school psychologist met with Joshua individually to demonstrate and practice eye contact in a 1:1 setting. Following this instruction, she sat in the back of the class with Joshua during a 15-minute group instruction time to provide regular individualized feedback on his demonstration of eye contact. This instruction and feedback was repeated on a weekly basis. The teacher attempted to ensure generalization of Joshua's demonstration of this skill by providing stickers to him after sessions in which he was successful. These stickers were sent home to Joshua's parents to offer him additional reinforcement. Although this reinforcement strategy had been used unsuccessfully in the past, the teacher indicated that she had previously neither implemented the strategy for a long period of time, nor had she previously targeted a specific behavior for reinforcement with the plan. Joshua indicated that he liked receiving stickers for demonstrating good eye contact.

Plan Implementation and Progress Monitoring

Joshua's response to the intervention was monitored weekly using 10-minute momentary time-sampling observations of his eye contact during group instruction. Evidence of intervention integrity was documented through the sticker sheets that accumulated over the course of the intervention, as well as through a weekly check-in with the associate and teacher about the literacy intervention. Following initial implementation of the intervention, Joshua's teacher indicated that he did a particularly good job of making eye contact when he was reminded to fold his hands and place them under his chin; this accommodation was then added to the plan.

Plan Evaluation

After seven weeks of implementation, the team reviewed Joshua's progress. Based on additional DIBELS data collected as part of the end-of-year benchmark, it was determined that Joshua was mak-

ing substantial progress across continued implementation of *Road to the Code*. His rate of progress was similar or greater to that of his peers; however, Joshua's overall performance remained substantially below that of his peers (see Figures 1, 2, and 3). A measure of his blending and segmenting skills indicated that he was able to blend consistently at the sound level, and was able to segment at all three levels (word, syllable, and sound levels). However, he had not yet mastered sound knowledge for all of the letters, which was a skill necessary to be successful at the beginning of first grade. It had not been possible to measure eye contact across all targeted observations given that on several occasions when the psychologist entered the room, group instruction had already started, and Joshua was seated in a position that made it impossible for the psychologist to unobtrusively monitor eye contact. Based on the three observations that were accurately completed during group instruction, Joshua's eye contact averaged 30% of the moments sampled.

The team decided that additional resources would be needed for Joshua to catch-up to his peers in reading. A full and individual evaluation plan was developed and signed by Joshua's parents to determine whether Joshua's learning needs required the use of special education services. Within Heartland AEA, three questions need to be answered affirmatively in order for a student to be eligible for special education services. They include the following (answers obtained from Joshua's case are provided):

1. Is the student's rate of progress given equal opportunity less than the rate of typical peers or an expected rate of skill acquisition? Under what learning conditions has the student experienced the greatest rate of gain?

Yes. Joshua's increase in early literacy skills was associated with implementation of a 1:1 reading program that stressed phonemic awareness skill development.

2. Does the student's performance remain significantly different than that of peers or identified standards?

Yes. Joshua continues to deviate from peers in early literacy skills as measured by the DIBELS (e.g., below 10th percentile). He also remains substantially below the expected benchmark standards for performance on two of the three DIBELS measures administered.

3. Does the student continue to need curriculum and instruction that is significantly different than what is provided in the general education classroom? Additionally, what environmental conditions will best enhance the student's performance?

Yes. Joshua needs continued instruction to develop letter sound correspondence and improve his phonemic awareness skills. He tends to make the greatest progress when provided instruction in a 1:1 setting that allows for very frequent monitoring and feedback of his skill development. Given that trained associates will not be available to Joshua in his first-grade year, and that it is expected that students have mastered letter-sound correspondence early in their first-grade year, it appears that Joshua will need special education services in order to facilitate his rate of progress such that he is on track in learning to read.

Eligibility for Special Education Entitlement

From the answers to these questions, Joshua was considered eligible for special education services as an "entitled individual." An individualized education program (IEP) was developed to provide Joshua with continued 1:1 early literacy instruction for a short time daily by a special education teacher, with a focus on phonemic awareness skill development. A behavioral skill acquisition and management plan was attached to his IEP to ensure that his eye contact skills would continue to be addressed and monitored across both general and special education settings.

DISCUSSION

Reflections on the Value of Problem Analysis and the Identification of Optimal Learning Conditions within the Heartland PSM

Using the Heartland PSM approach, Joshua's difficulty in early literacy skill development was carefully analyzed to determine the skills with which he was struggling, in an effort to link an intervention plan to his specific needs. His intervention plan was carefully tailored to address both early literacy and attention skill needs. If a standard protocol method had been used, in which all struggling students receive the same intervention, Joshua may have simply qualified for special education services following a failure to demonstrate progress with the original *Road to the Code* intervention. Within that scenario, the school psychologist would never have been involved in conducting a thorough problem analysis. Without this information, an educator may have been at a loss for how to begin addressing Joshua's needs.

Throughout the problem-solving process, the team was working to ensure that Joshua received services matched to his level of need. Under the Heartland PSM, support is not eliminated until a child has met a predetermined achievement standard. In this way, there is a continuum of support available. In contrast, the description of the standard protocol approach to RTI described in D. Fuchs et al. (2003) does not specify whether there is continued support available for students who fail to meet the dual discrepancy criteria following intervention implementation. If the team had made a decision about whether Joshua required continued support on the basis of whether he demonstrated a dual-discrepancy following implementation of the combined individualized *Road to the Code* and attention skill instruction intervention, the added supports may have been removed (according to L. Fuchs and Fuchs [1997] model), given that he did not demonstrate such a dual discrepancy. There is certainly a need for the availability of continued support for students who remain below an achievement standard, despite making substantial progress following intervention implementation; the Heartland PSM presents a vehicle for ensuring that such support is available.

If and when special education services are initiated within the Heartland PSM, there is a level of certainty that the services will enhance student outcomes, given that specific conditions under which the student is successful are identified as part of the eligibility determination process. Because the effectiveness of special education for learning problems has been questioned (Bentum & Aaron, 2003; Kavale & Forness, 1999), this is considered a particularly important aspect of the Heartland PSM approach. For Joshua, it was clear that he was successful when *Road to the Code* instruction was provided individually; this information was used to guide the development of his IEP. If a mere dual-discrepancy formula was used to determine special education eligibility (i.e., a student was found eligible based merely on discrepancies in performance level and rate of progress), it would remain unclear whether special education services would have a high likelihood of leading to improved student performance.

The Heartland PSM provides a vehicle for the continued enhancement of general educator skills, knowledge, and decision-making processes. In the case described, the problem-solving team members were able to make more efficient use of resources already available through general education services to meet Joshua's needs. In fact, the teacher associate that administered the *Road to the Code* program indicated how valuable the experience had been for her, and that it made her feel that her work was really making a difference in the life of a child. From the success of the *Road to the Code* intervention, the kindergarten staff decided to implement a more structured school-wide early literacy skill development program in the following year.

Perceived Challenges of the Heartland PSM Approach

Despite the perceived advantages of the Heartland PSM, several criticisms and challenges of this approach have been put forth. One concern is that the special education eligibility criteria are less stringent than those that involve traditional standardized cognitive testing. Typically, Heartland personnel have been advised to use local norms (i.e., school or district norms) as the standard for calculating individual student discrepancies, and outside benchmarks to determine how the school is performing as a whole. The use of local norms as a standard may on the surface seem inappropriate, given that student eligibility status may therefore fluctuate considerably from district to district. However, it is helpful to consider this practice in light of the school-wide model presented earlier in this paper. When there are external benchmarks available that indicate how well students need to perform to be "on-track" in their development, such as the benchmarks available for the DIBELS probes, a school can determine the percent of students that are "on-track." When very few students are on-track based on these outside benchmarks, it is an indication that the school may need to do something altogether different to improve student performance as a whole. In this case, the very lowest students may need substantial intervention beyond what most students receive (e.g., those in the bottom 10% according to local norms); however, it is considered important for the general education programming within the school to be altered to better address the needs of the majority of students, rather than simply referring many more students for special education services. In this way, it is anticipated that a school can both delegate resources appropriately to students with the greatest needs, and work to ensure that it is constantly improving the core programming for all students to meet external standards.

It is also important to note that cognitive testing may not necessarily represent an approach that is particularly more consistent in identifying students in need of special education services. For instance, there are a variety of cognitive tests that may result in different scores for the same student. Furthermore, in some states, cut-off scores for IQ-achievement discrepancies vary across districts (Reschly & Hosp, 2004). This seems to suggest that varying standards are present within the more traditional model of LD identification just as they are in the Heartland PSM. Given that there is currently more research to support the instructional utility of direct measures of academic skills, such as the curriculum-based measures (CBMs) that are frequently used within the Heartland PSM (L. Fuchs & Fuchs, 2002), it seems as if these tools could be considered advantageous to traditional cognitive testing measures, which have not yet demonstrated sufficient instructional utility.

The second concern associated with the Heartland eligibility criteria is that there may be considerable subjectivity in determining whether a student's instructional needs go beyond what can be reasonably provided through general education services. This issue was evident in Joshua's case. Joshua was found eligible, in part, based on the fact that fewer services would be available through general education in his first-grade year. Many people might question whether it was appropriate to qualify Joshua as having a "disability," given that he had only spent one year in school, and that it was clear that he was able to make progress with general education services during his kindergarten year. However, when considering this issue, it is important to remember that a goal of the Heartland PSM is to match the level of student need with available school resources in a timely manner. Regardless of whether Joshua would eventually show chronic learning difficulties over a longer period of time (i.e., display disability characteristics), he had substantial needs at the end of his kindergarten year. His difficulties were anticipated to continue into the beginning of his first-grade year, if he was not provided the identified supports that helped him to make progress. There is currently very limited research evidence suggesting that students with mild learning disabilities have substantially different needs than low-achieving students (D. Fuchs, Fuchs, Mathes, Lipsey, & Roberts, 2001); both student groups

may need similar intensive intervention support at some point during their educational careers in order to make optimal progress. The Heartland PSM can allow students to move more smoothly between receiving general education services alone and receiving special education services, based on their current educational needs, in order to ensure that all students are making progress toward high standards.

Related to the challenge of appropriately determining whether a child requires special education services is the challenge of ensuring that general education interventions are implemented and monitored with integrity. The Heartland PSM assumes that school psychologists and special education consultants will serve as consultants for intervention development, implementation, and progress monitoring. However, depending on the skill and motivation level of the teacher, a school psychologist may need to be directly involved in intervention implementation and monitoring. In Joshua's situation, the behavioral intervention component was implemented and effects were monitored by the school psychologist. Other components of Joshua's intervention were monitored through check-ins with the teacher and observations of the teacher associate's implementation of the *Road to the Code* program. As various educational agencies begin to implement a similar RTI approach, school psychologists will likely need to provide substantial training to educators in progress monitoring and intervention implementation. Until educators develop and refine these skills, psychologists will likely need to play a significant role in direct assessment and intervention to ensure integrity. Once educators have developed these skills, school psychologists will likely be able to take on more of a consulting role, in which they help to translate the most recent research findings on effective assessment and intervention methods into practice. In this way, school psychologists can assume roles that are ultimately aimed at reducing the research-to-practice gap for instructing students with special needs.

Another perceived challenge associated with Heartland's model is that special education teachers are not involved in individual student problem-solving efforts until an IEP is written. Although this feature is perhaps intended to ensure that special education services are reserved for those who have the greatest need, it can limit collaboration and communication between special and general educators, and prevent special educators from obtaining information about students that are eventually found eligible for special education services until they begin to receive services. The Minneapolis Problem-Solving Model provides an example of an approach that involves special educators much earlier in the process (Marston et al., 2003).

Finally, the school psychologist involved in Joshua's case noted her perceptions (based on these experiences) that the problem-solving message can lose credibility and momentum when it is assumed that all academic and social-behavioral problems can be *entirely* solved, such that extra support is no longer required. These types of assumptions were perceived to lead to discouragement and frustration among problem-solving team members when students were referred several times across multiple years. Based on information that was presented at the NRCLD Symposium (2003), only about 16% of student problems were found to be entirely resolved through Heartland's problem-solving process (Grimes & Kurns, 2003). Perhaps a more motivating way for educators to think about the process is as a way to improve the learning of students who struggle. General educators are not often familiar with the lack of data to support special education effectiveness, and therefore can often assume that special education is *the* solution for struggling students. It is important for general education teachers to recognize that their efforts may result in more effective programming for struggling students than special education services, even if their efforts do not necessarily solve problems such that students require no further support. The communicated focus or goal of such an approach should be to improve learning rather than to solve problems.

To communicate this focus on improving student learning, it will be important for teachers to recognize that the efforts they expend to improve the learning of students who struggle is worthwhile. Legislation such as No Child Left Behind is increasingly holding general educators responsible for the learning of all students, including those receiving special education services. School psychologists need to assist these teachers in implementing interventions that improve the learning of students who struggle, and help demonstrate to teachers the effectiveness of these interventions. The use of formative evaluation tools such as CBMs provides teachers with immediate feedback to reinforce intervention efforts. When such data are made more accessible to educators and are useful in directing instructional changes, it is likely that teachers will become more cognizant of their potential role in improving student learning, rather than viewing student difficulties as problems that are difficult to solve.

CONCLUSIONS

It is the opinion of the author that the problem analysis and identification of instructional needs components represented in the Heartland PSM approach are essential and effective. Identification of a lack of responsiveness to intervention only tells what does *not* work for a particular student; it does not necessarily provide guidance as to what *will* work. The National Association of School Psychologists (NASP) Professional Conduct Manual indicates that school psychologists are to "develop interventions that are appropriate to the presenting problem of students and are consistent with data collected" (NASP, 2000; p. 28); this indicates that just any empirically supported intervention is not sufficient. School psychologists have the responsibility to determine whether the given intervention is sufficiently targeted to a given student's problem.

Although there is not yet substantial research on the relative efficiency of and value-added to interventions that are selected using various problem analysis methods, researchers are exploring the extent to which features of CBA enhance intervention effectiveness (MacQuarrie, Tucker, Burns, & Hartman, 2002), and the possibility of using CBM to more systematically analyze reading problems for the purpose of developing more targeted interventions (L. Fuchs, Fuchs, Hosp, & Hamlett, 2003). Although much more research is needed on how to assess for instructional needs and intervention planning, there are promising methods available to analyze academic problems in ways that link to interventions with a high probability of success (Howell, Kurns, & Antil, 2002; Rosenfield, 2002). Future research is needed to determine the extent to which developed methods for the identification of instructional needs add value to intervention effectiveness, and how to efficiently incorporate these assessment methods within educational settings.

It is important to note that although RTI approaches appear promising, much more research is needed to ensure the technical adequacy of the formative measures used, particularly in math, writing, social-behavior, and reading comprehension. The behavioral progress monitoring measures used in this case study illustrate some of the potential challenges of monitoring progress within this domain.

Agencies such as Heartland that have applied this model have invested a substantial amount of resources in professional development activities and supervision. They have also had the benefit of attracting highly-motivated school psychologists, many of whom have had previous training in problem-solving methods. In addition, it might be argued that the organizational structure of school systems in Iowa has facilitated implementation of this progressive model. At Heartland, school psychologists are employed through an intermediate agency that is separate from the actual school districts that they serve. This intermediate agency (the AEA) has been able to provide substantial ongoing training to support school psychologists in the implementation of the PSM. As similar agencies and school districts consider implementing an RTI approach, it will be important to consider how comprehensive

and ongoing training and supervision can be made available. It will be extremely important for school psychologists and related school support personnel to work together prior to implementing an RTI approach in a given district or agency. Those who have been involved in RTI approach implementation should be sought after for guidance.

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