OSEP Research Institutes: Bridging Research and Practice

IDEAs that Work
U.S. Office of Special Education Programs

In this column, *Bridging Research and Practice*, three of the federally funded special education research institutes report to you, the practitioner, on their progress in areas that will be particularly helpful to you in working with your students. The U.S. Office of Special Education Programs (OSEP) has funded these three research institutes to study specific curricular and instructional interventions that will accelerate the learning of students with disabilities in curricular areas:

Center on Accelerating Student Learning (CASL) focuses on accelerating reading, math, and writing development in Grades K-3. The Directors of CASL are Lynn Fuchs and Doug Fuchs of Vanderbilt University.

Principal Investigators include Joanna Williams at Columbia University and Steve Graham and Karen Harris at Vanderbilt University.

Research Institute to Accelerate Content Learning Through High Support for Students With Disabilities in Grades 4-8 (REACH) is examining interventions that reflect high expectations, content, and support for students. The Director of REACH is Catherine Cobb Morocco at Education Development Center in Newton, MA. Research partners include the University of Michigan (Annemarie Palincsar and Shirley Magnusson), the University of Delaware (Ralph Ferretti, Charles MacArthur, and Cynthia Okolo), and the University of Puget Sound (John Woodward).

The Institute for Academic Access (IAA) is conducting research to develop instructional methods and materials to provide students with authentic access to the high school general curriculum. The Institute Directors are Don Deshler and Jean Schumaker of the University of Kansas, Lawrence. Research partners include the University of Oregon and school districts in Kansas, California, Washington, and Oregon.

This issue features the CASL.

Responsiveness-To-Intervention: A Blueprint for Practitioners, Policymakers, and Parents

Douglas Fuchs and Lynn S. Fuchs

The Center on Accelerating Student Learning's (CASL's) general goal is to identify instructional practices that accelerate the learning of K-3 children with disabilities. A specific goal is to identify and understand the nature of nonresponsiveness to generally effective instruction. This column addresses identifying nonresponders—work supported by Office of Special Education Program's National Research Center on Learning Disabilities, but which had its origins in the CASL research program.

Individuals With Disabilities Education Improvement Act of 2004 (IDEA; P.L. 108-446) permits educators to use responsiveness-to-intervention (RTI) as a substitute for, or supplement to, IQ-achievement discrepancy to identify students with learning disabilities (LD). Policymakers have high hopes that RTI (a) will encourage and guide practitioners to intervene earlier on behalf of a greater number of children at risk for school failure, and (b) will represent a more valid method of LD identification because early

intervention will decrease the number of "false positives," or students given a disability label who are low achievers because of poor instruction rather than an inherent disability. Partly because IDEA was reauthorized so recently, there is confusion about just what it is, and how schools, districts, and states might implement it. Following, we define RTI by specifying a 4-step process, and we distinguish between what we believe are "acceptable practices" from more desirable "best practices." We then illustrate how the process might work by presenting a series of four "case studies." We conclude by making explicit several of our preferences. We wish to emphasize that the following blueprint is but one way to define RTI.

Blueprint

Step 1: Screening (Responsibility: General Education)

In the first month of the school year, students are screened to identify those "at risk" for school failure.

Acceptable Practices. To identify at-risk students: (1) the previous year's state assessment scores are reviewed to identify any student scoring below the 25th percentile in reading or math; OR (2) an achievement test is administered to all children in a given grade, with at-risk children designated as those scoring below the 25th percentile. (NOTE: At-risk students can also be identified by teachers or parents.)

Best Practices. To identify at-risk students (1) everyone is assessed using brief screening tools that demonstrate diagnostic utility for predicting performance on the reading and math state assessments (in the elementary grades) or on the local graduation requirements (at the secondary level); OR (2) only those students who perform below the 25th percentile on the previous year's state assessment, or who perform below the 25th percentile on a more current achievement test, are screened individually with tools that have diagnostic usefulness.

Step 2a: Implementing Classroom Instruction (Tier 1; Responsibility: General Education)

Students receive instruction in general education, in conjunction with No Child Left Behind and the Adequate Yearly Progress provision.

Acceptable Practice. School districts implement classroom instruction that reflects sound instructional design principles.

Best Practice. School districts choose evidence-based curricula and instruction, and provide teachers with relevant and rigorous professional development. Teachers implement the curricula and instruction, and their fidelity of implementation is documented.

Step 2b: Monitoring Responsiveness to Classroom Instruction (Tier 1; Responsibility: General Education).

At-risk students are monitored for 8 weeks to identify a subset that responds inadequately to general education.

Acceptable Practice. At the end of 8 weeks, at-risk students are administered a screening tool or brief standardized achievement test in the area of risk (e.g., reading or math). Adequate Tier 1 response is operationalized by a score above the 16th percentile.

Best Practice. At-risk students are assessed every week for 8 weeks in the area of risk using brief monitoring tools. Adequate Tier 1 response is operationalized using (a) local or national normative estimates for weekly improvement OR (b) criterion-referenced figures for weekly improvement. If (a) and (b) are unavailable, then adequate Tier 1 response is defined as "some improvement" (i.e., a slope greater than the standard error of estimate).

Step 3a: Implementing a Supplementary, Diagnostic Instructional Trial (Tier 2; (Responsibility: General and Special Education)

Tier 1 nonresponders receive an 8-week supplementary, diagnostic instructional trial. This trial is explained to parents in a letter or face-to-face meeting. Written parental consent is required for the trial to proceed.

Acceptable practice. The special educator and colleagues (e.g., school psychologist, speech/language clinician) collaboratively problem-solve to design a supplementary, diagnostic instructional trial tailored to the needs of the student. This instruction may be implemented by the classroom teacher, but would more likely be conducted by a specialist or an aide under the supervision of the teacher or a specialist.

Best Practice. The Tier 1 nonresponder participates in small-group instruction with no more than 2 additional students who share similar instructional strengths and weaknesses. The group is taught at least 3 times per week, 30 minutes per session, by a certified teacher or aide who can accurately implement a scientifically validated, standard tutoring protocol.

Step 3b: Monitoring Responsiveness to a Supplementary, Diagnostic Instructional Trial (Tier 2; Responsibility: General Education and Special Education)

Response to the 8-week Tier 2 supplementary, diagnostic trial is monitored to identify the subset of students who respond inadequately (i.e., Tier 2 nonresponders). Parental feedback is provided in a written report, a telephone call, or a face-to-face meeting.

Acceptable Practice. At the end of 8 weeks, at-risk students are administered a screening tool or brief standardized achievement test in the area of risk. Adequate Tier 2 response is specified in terms of a score above the 16th percentile.

Best Practice. At-risk students are assessed every week for 8 weeks in the area of risk using brief monitoring tools. Adequate Tier 2 response is determined using (a) local or national normative estimates for weekly improvement OR (b) criterion-referenced figures for weekly improvement. If (a) and (b) are unavailable, then adequate Tier 1 response can be operationalized as "some improvement" (i.e., a slope greater than the standard error of estimate).

Step 4: Designation of LD, and Special Education Placement (Responsibility: General and Special Education)

The Tier 2 nonresponders receive an individualized, comprehensive evaluation that addresses all eligibility determination, evaluation, and procedural safeguards specified in IDEA. Written parental consent is obtained. The evaluation team (including the special education teacher and other qualified professionals) designs an evaluation that rules out mental retardation as an alternative diagnosis using a brief intellectual assessment and eliminates other diagnostic possibilities such as emotional disturbance or visual disabilities.

Case Studies

Graceland Elementary

To illustrate different decisions within an RTI framework, we present four case studies from first grade in (fictitious) Graceland Elementary. First, we briefly describe the progress monitoring measure used by Graceland's teachers, as well as the nature of the school's Tier 1 and Tier 2 instruction.

Measure. For screening and designating responsiveness to instruction at Tiers 1 and 2, Graceland's first-grade teachers use curriculum-based measurement word identification fluency (CBM-WIF). With CBM-WIF, students read a list of words for 1 minute. Performance is the number of words read correctly. Each alternate form randomly samples 50 words from a pool of 100 high-frequency preprimer, primer, and first-grade words. Two decades of research has demonstrated the concurrent and predictive validity of CBM-WIF level and slope (i.e., weekly improvement based on a least-squares regression between calendar days and scores).

For screening, Graceland Elementary assesses all first-grade students in September on two alternate forms of CBM-WIF, averaging each child's performance across the two forms. Graceland teachers use a CBM-WIF cut-score of 15 to designate risk for reading failure by year's end (i.e., any student scoring lower than 15 on CBM-WIF is judged likely to experience serious reading difficulty unless the

student receives intervention). For monitoring at-risk first-graders' responsiveness to instruction at Tier 1, the teachers measure students once each week on a different form of CBM-WIF; to measure responsiveness in Tier 2 instruction, twice each week. At Tiers 1 and 2, performance is graphed, and slopes are calculated at key decision points. Based on a normative framework for at-risk students who respond positively to instruction, Graceland School uses a CBM-WIF slope of at least 1 word increase per week to designate positive response to intervention.

Tier 1 and Tier 2 Instruction. First-grade Tier 1 instruction at Graceland can be described as "generally effective" because (a) every teacher uses a validated reading curriculum, Open Court; (b) Graceland's lead reading teacher observes each teacher's implementation of Open Court quarterly and has documented that the program is implemented with fidelity; and (c) during the previous year, only 3 of 60 (i.e., 5%) first graders failed to achieve the end-of-year CBM-WIF benchmark of 60 words read correctly in 1 minute.

Graceland's Tier 2 instruction is modeled after a research-backed, first-grade tutoring protocol. Students receive 45 minutes of instruction four times each week in groups of 1-3 students. Tutors are paraprofessionals who have completed formal training and are observed once each week by the reading teacher, who provides corrective feedback. Once each week, the reading teacher also meets with the tutors to examine students' CBM-WIF graphs and to problem solve about students whose progress is inadequate.

Case A: Aretha Is Not At Risk (Not LD)

On the September CBM-WIF screening, Aretha's average score across the two alternate forms was 22.5. This score exceeded the cut-point for designating reading-failure risk (i.e., 15). So, Aretha was deemed not at risk (see the "Case A" graph and decision tree).

Case B: Gladys Is Initially At Risk, But Proves Responsive to Tier 1 Instruction (Not LD)

On the September CBM-WIF screening, Gladys's average score across the two alternate forms was 10.5. This score fell below the cut-point for designating risk for reading failure. She was viewed as at risk and her performance was monitored each week for 8 weeks during Tier 1 instruction. The data indicated that her CBM-WIF slope (i.e., weekly increase) was 1.8, which exceeded the minimum 1.0 criterion for positive response. So, she was deemed responsive to Tier 1 instruction. (See her graphed performance and accompanying decision tree in the "Case B" figure.)

Case C: Tina Is At Risk and Unresponsive to Tier 1 Instruction, But Responsive to Instruction at Tier 2 (Not LD)

On the September CBM-WIF screening, Tina's average score across the two alternate forms was 5.5. Because this score fell below the at-risk cut-point, her performance was monitored each week for 8 weeks in Tier 1 instruction. The data indicated that her CBM-WIF slope (i.e., weekly increase) was 0.4, which fell below the minimum 1.0 criterion for an acceptable response. So, Tina was judged unresponsive at Tier 1 and, after written parental consent was obtained, entered a Tier 2, 8-week trial, again with weekly monitoring. At Tier 2, Tina's slope increased to 1.7, exceeding the 1.0 criterion, and she was seen as *not* requiring special education. (Her graph and decision tree are shown in the "Case C" figure.)

Case D: Etta Is At Risk and Unresponsive to Both Tier 1 and Tier 2

On the September CBM-WIF screening, Etta's average score across the two alternate forms was 5.5, which fell below the cut-point designating risk. So, she was monitored each week for 8 weeks during Tier 1 instruction. During this period, her CBM-WIF slope (i.e., weekly increase) was 0.2, which fell below the 1.0 criterion. She was judged unresponsive to Tier 1 instruction and, with parents' written approval, entered Tier 2. Because her slope during Tier 2 instruction was 0.5, well below the 1.0 criterion, she was also deemed unresponsive to Tier 2 instruction. This triggered a referral for a comprehensive evaluation, which represents Step 4 in our process. Written parental consent was obtained. The 2-subtest Wechsler Abbreviated Scale of Intelligence ruled out mental retardation, and rating scales and a teacher report eliminated the possibility of an emotional/ behavioral disorder. After an appropriate review of all evidence, Etta was classified as LD. (Her graph and decision tree are shown in the "Case D" figure.)

Preferences

In specifying and illustrating an RTI process, we have expressed several preferences we wish to make explicit. First, our process comprises 3 tiers, with special education as the third tier. Whereas some recommend a greater number of tiers, we believe a 3-tier system best serves both early intervention and disability identification objectives of RTI. Second, we prefer standard tutoring protocols over a problem-solving approach because the available scientific evidence supports the former more strongly than the latter. Third, we conceptualize RTI to include a final comprehensive evaluation phase (Step 4) so that formal distinctions between LD, behavior disorders, and mental retardation may be preserved.

Case A

CBM Word Identification Fluency (words/minute)

Screen

*

School Weeks

Sept Oct Nov Dec Jan

Student Does Not Have a Disability

Step 1: Screening
Is this student at risk?
Word Identification Fluency = 22.5

(No)   Yes

Step 2: Assessing Tier 1 Response
Is this student responsive to general education?
Word Identification Fluency Slope = 1.8

Yes   No

Step 3: Assessing Tier 2 Response
Is this student responsive to diagnostic instructional trial?
Word Identification Fluency = NA

Yes   No

Step 4: Disability Classification/
Special Education Placement
What is the student's disability label?

LD   MR   EBD

Case B

CBM Word Identification Fluency (words/minute)

Tier 1
Screen

*

School Weeks

Sept Oct Nov Dec Jan

Student Does Not Have a Disability

Step 1: Screening
Is this student at risk?
Word Identification Fluency = 10.5

No   (Yes)

Step 2: Assessing Tier 1 Response
Is this student responsive to general education?
Word Identification Fluency Slope = 1.8

(Yes)   No

Step 3: Assessing Tier 2 Response
Is this student responsive to diagnostic instructional trial?
Word Identification Fluency = NA

Yes   No

Step 4: Disability Classification/
Special Education Placement
What is the student's disability label?

LD   MR   EBD

Case C

Student Does Not Have a Disability

Step 1: Screening
Is this student at risk?
Word Identification Fluency = 5.5

No (Yes)

Step 2: Assessing Tier 1 Response
Is this student responsive to
general education?
Word Identification Fluency Slope = 0.4

Yes (No)

Step 3: Assessing Tier 2 Response
Is this student responsive to diagnostic
instructional trial?
Word Identification Fluency = 1.7

(Yes) No

Step 4: Disability Classification/
Special Education Placement
What is the student's disability label?

LD   MR   EBD

Case D

Student Does Not Have a Disability

Step 1: Screening
Is this student at risk?
Word Identification Fluency = 5.5

No (Yes)

Step 2: Assessing Tier 1 Response
Is this student responsive to
general education?
Word Identification Fluency Slope = 0.2

Yes (No)

Step 3: Assessing Tier 2 Response
Is this student responsive to diagnostic
instructional trial?
Word Identification Fluency = 0.5

Yes (No)

**Step 4: Disability Classification/
Special Education Placement**
What is the student's disability label?

(LD)   MR   EBD