



Essential Characteristics of Reading Instruction and Interventions in Middle School



**A Research Summary by
the Texas Center for Learning Disabilities**

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Background

For the past 5 years, researchers at the Texas Center for Learning Disabilities (TCLD), with funding from the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development, have addressed questions related to the implementation and effect of response to intervention (RTI) with sixth-, seventh-, and eighth-grade students attending middle schools. Inquiry has focused on the development and field-testing of screening and progress-monitoring measures and on secondary (Tier 2) and tertiary (Tier 3) interventions.

This summary presents a selection of the practical implications stemming from TCLD research on the following critical elements of RTI: screening and progress monitoring, research-based classroom instruction, and interventions.

To learn more about the research and findings described in this summary, see Pyle and Vaughn (2012; <http://texasldcenter.org/research/files/p3/pits12-pylevaughn.pdf>) and Vaughn and Fletcher (2012; <http://texasldcenter.org/research/files/p3/jld12-vaughnfletcher.pdf>).

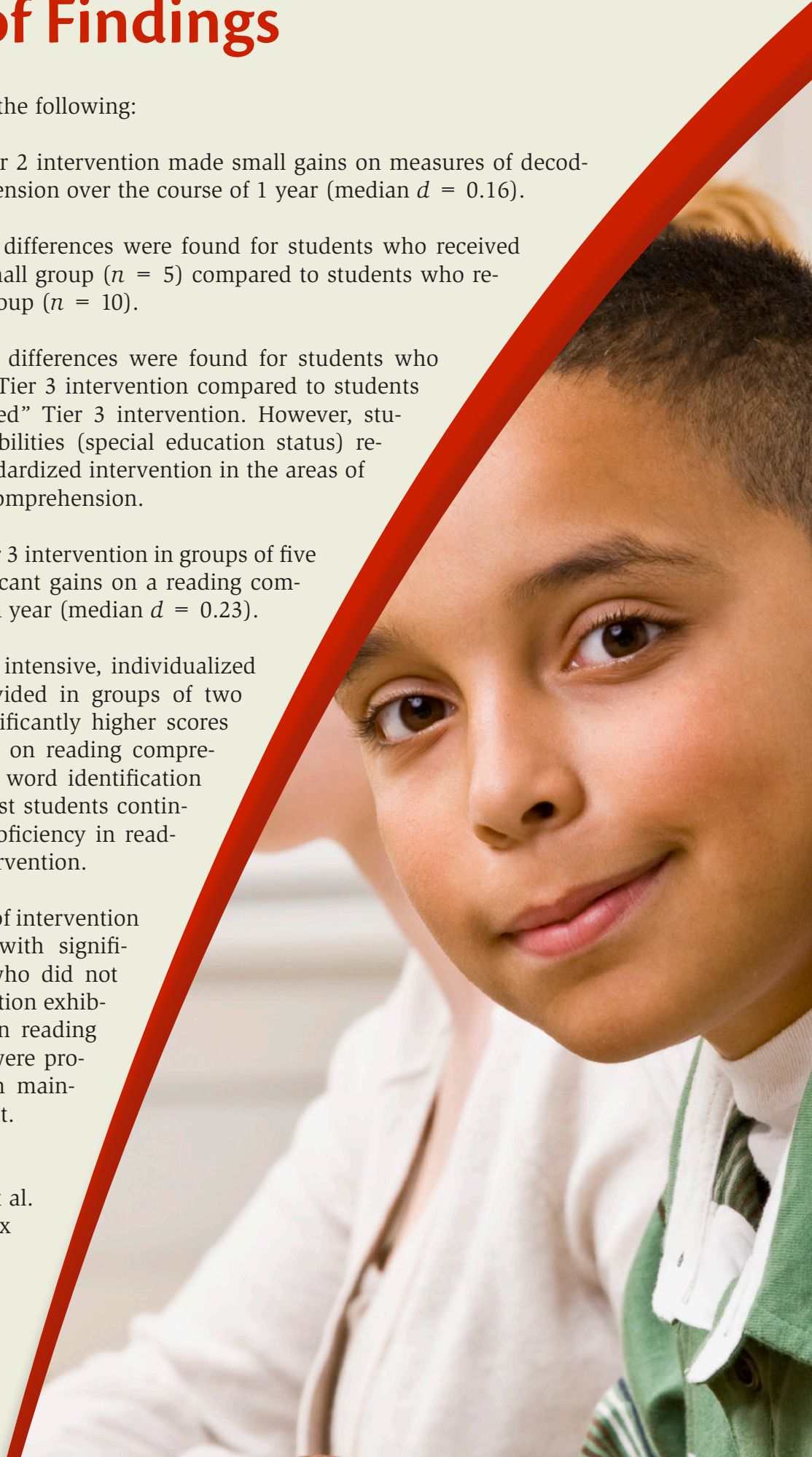
Information is also available on the Project III—Remediation page of the TCLD website: www.texasldcenter.org/research/project3.asp.

Overview of Findings

Overall, investigators learned the following:

- Students who received Tier 2 intervention made small gains on measures of decoding, fluency, and comprehension over the course of 1 year (median $d = 0.16$).
- No statistically significant differences were found for students who received Tier 2 intervention in a small group ($n = 5$) compared to students who received Tier 2 in a larger group ($n = 10$).
- No statistically significant differences were found for students who received “individualized” Tier 3 intervention compared to students who received “standardized” Tier 3 intervention. However, students with identified disabilities (special education status) responded better to the standardized intervention in the areas of word attack and reading comprehension.
- Students who received Tier 3 intervention in groups of five showed statistically significant gains on a reading comprehension measure over a year (median $d = 0.23$).
- Students who received an intensive, individualized intervention (Tier 4) provided in groups of two to four demonstrated significantly higher scores than comparison students on reading comprehension ($ES = 1.20$) and word identification ($ES = 0.49$), although most students continued to lack grade-level proficiency in reading, despite 3 years of intervention.
- For many students, 1 year of intervention was sufficient. Students with significant reading difficulties who did not receive consistent intervention exhibited substantial declines in reading performance; those who were provided reading intervention maintained reading achievement.

These research findings are further described in Vaughn et al. (2010); Vaughn, Wexler, Leroux et al. (2011); and Vaughn, Wexler, Roberts et al. (2011).



Screening and Progress Monitoring

A sample of struggling readers ($n = 1,083$) and typical readers ($n = 784$) participated in the research over 3 years. Students were identified as “struggling readers” if they did not pass (or scored within 1 standard deviation on) the Texas Assessment of Knowledge and Skills (TAKS) or took the State Developed Alternative Assessment (SDAA) instead of the TAKS (thus, not excluding special education students except for those who did not receive the majority of their programming in general education or those reading below grade 1 level on the SDAA).

Because TAKS data are collected for all students each year, researchers examined the psychometric properties of the TAKS to determine whether it could be used as a screening instrument. Researchers determined that the TAKS had good reliability and validity, but because the TAKS is not timed and does not differentiate students according to the nature of their reading problem, it was recommended that a fluency screening measure follow the TAKS. Students were administered several individual and group-based assessments that used passage reading fluency and a maze procedure. Though the frequency and type of progress-monitoring measures varied by year of intervention, they typically included AIMSweb Reading Maze and Passage Fluency administered in 2-month intervals to monitor students’ reading progress. After extensive data collection and analyses, researchers determined that students could be accurately subdivided based on instructional reading needs (i.e., decoding, fluency, and comprehension) by adding a 1-minute oral reading fluency probe to the information the TAKS provided.

Implications for Practice

- Reliable, valid, and efficient screening of secondary students with reading difficulties can be obtained from the state-level reading assessment (in this research, the TAKS).
- Even though TCLD researchers found that supplementing the TAKS with a fluency assessment was useful, this finding may not generalize to other states without evaluation of the validity and utility of the state assessment.
- Overall, researchers found no need for extensive assessments beyond those administered as part of students’ entry into a specific program or curriculum. This finding is critical for a standardized approach to RTI for reading at the secondary level.
- Oral reading fluency assessments were reliable and valid for progress monitoring, but because secondary students’ reading growth was relatively small over the year, progress monitoring could be conducted less frequently in middle school than in elementary school.

- Progress assessments based on curriculum mastery may also be useful to teachers, and adding a fluency measure to a reading comprehension assessment provided useful diagnostic information.

Supporting Resources

- *Using Student Achievement Data to Support Instructional Decision Making*, a practice guide developed by the Institute of Education Sciences
<http://ies.ed.gov/ncee/wwc/practiceguide.aspx?sid=12>
- *Assessments to Guide Adolescent Literacy Instruction*, developed by the Center on Instruction
<http://www.centeroninstruction.org/assessments-to-guide-adolescent-literacy-instruction>

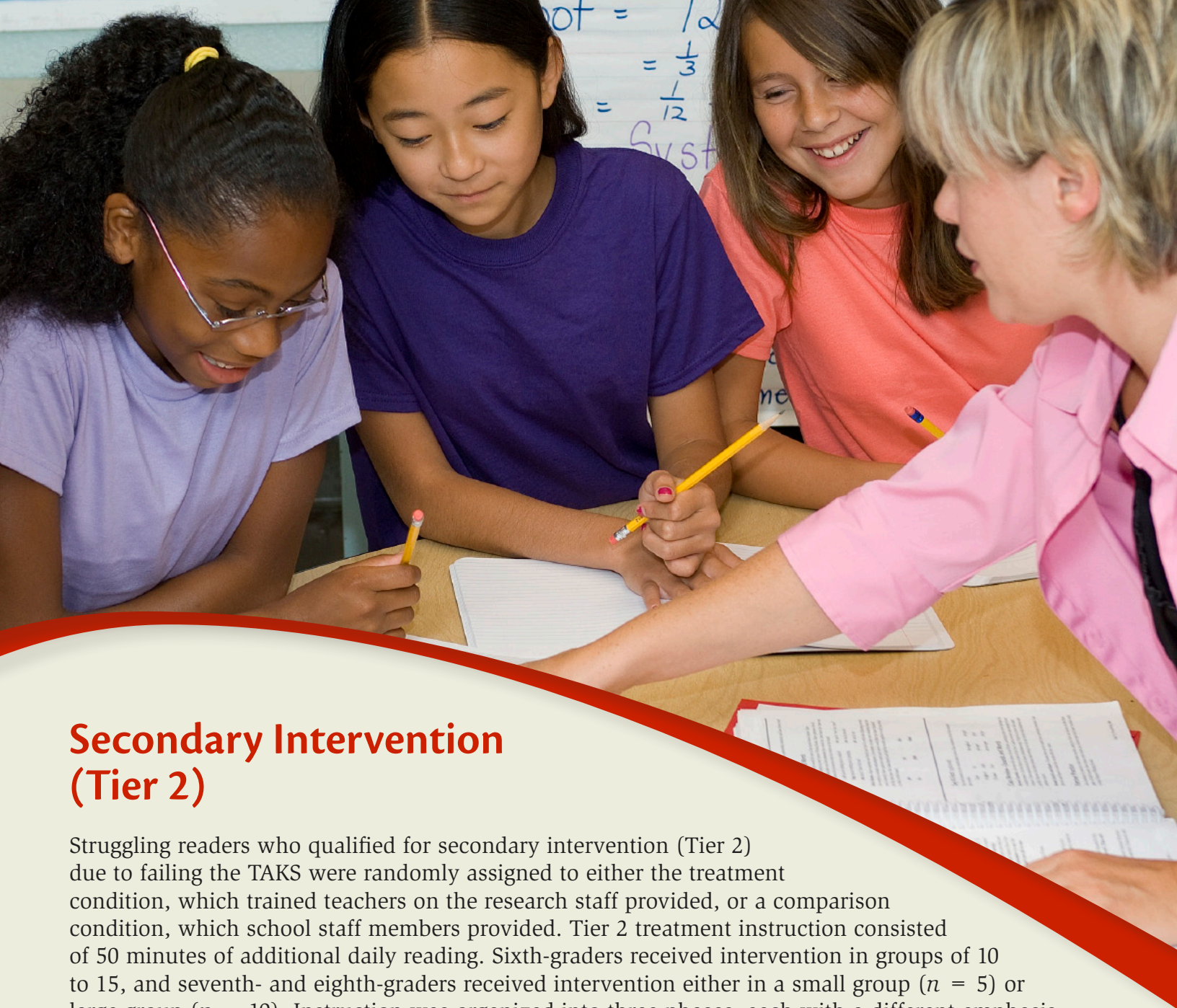
Multitiered Intervention

Research-Based Classroom Instruction (Tier 1)

Tier 1 was conceptualized as a focus on building vocabulary, improving background knowledge, and improving comprehension strategies across content areas. All content teachers participated in professional development to enhance their knowledge of teaching vocabulary and comprehension within their content area. Teachers attended a 6-hour professional development session, followed by monthly meetings with their study teams and a researcher. In-class coaching was also provided as needed.

For a complete description of the professional development provided, see *Effective Instruction for Middle School Students With Reading Difficulties: The Reading Teacher's Sourcebook* at http://www.meadowscenter.org/library/middle_school_instruction.asp.





Secondary Intervention (Tier 2)

Struggling readers who qualified for secondary intervention (Tier 2) due to failing the TAKS were randomly assigned to either the treatment condition, which trained teachers on the research staff provided, or a comparison condition, which school staff members provided. Tier 2 treatment instruction consisted of 50 minutes of additional daily reading. Sixth-graders received intervention in groups of 10 to 15, and seventh- and eighth-graders received intervention either in a small group ($n = 5$) or large group ($n = 10$). Instruction was organized into three phases, each with a different emphasis, although all reading components were included in each phase: Phase I (word study and fluency), Phase II (vocabulary and comprehension), and Phase III (application of reading strategies with expository text).

For examples of Tier 2 intervention lessons provided to struggling middle school students participating in TCLD research, see the Lesson Plans page of the TCLD website at <http://www.texasldcenter.org/lessonplans>.

For students with reading difficulties, the Tier 2 treatment, in addition to the Tier 1 enhanced classroom instruction that all students received, was associated with small gains in decoding, reading fluency, and comprehension ($d = 0.16$) compared to students with reading difficulties who received only the Tier 1 enhanced classroom instruction (although many of these students received intervention from their schools). There were no statistically significant differences for students with reading difficulties who were taught in a small group (5 students per group) vs. students who were taught in a larger group (10–14 students per group).



Tertiary Intervention (Tier 3)

After 1 year of secondary intervention, students who failed the TAKS or scored less than 90 standard score points on the Woodcock-Johnson III Letter-Word Identification or the GRADE Comprehension Composite assessments were identified as “minimal responders” and were eligible to receive tertiary (Tier 3) intervention. These students were randomly assigned to either an individualized instructional approach or a standardized instructional approach. Regardless of condition, students were taught the same research-based components of reading instruction (i.e., word study, fluency, vocabulary, and comprehension) in smaller groups (approximately five students per group). The individualized treatment allowed teachers the flexibility to design and implement lessons tailored to student need, placing emphasis on interpreting progress-monitoring data, diagnostic assessment data, and other student data pertaining to personal interest, text selection, and motivation. The standardized treatment involved a three-phase structure, as described in the preceding section of this report.

Students in the individualized intervention did not outperform students in the standardized intervention. However, practically significant differences favored word attack for students in the standardized intervention, possibly suggesting that a scope-and-sequence instructional approach allows for more review and repetition of words, positively influencing word-reading outcomes. Statistically significant differences were found for reading comprehension when findings for the standardized and individualized treatments were combined and compared with the comparison condition.

Implications for Practice

- Application of a multiple-tiered approach to instruction for middle school students is different from that for elementary students. The best predictor of low response to interventions in later years is very low reading achievement (Vaughn, 2010). Therefore, secondary students do not need to “pass through” successively more intensive interventions, but rather can move immediately to more or less intensive interventions, based on their current reading achievement scores (Fuchs, Fuchs, & Compton, 2010).
- For most students, intervention to build background knowledge and understanding for content learning should persist throughout secondary schooling. Continuing to build background knowledge and academic vocabulary benefits content learning broadly.
- When implementing RTI in middle schools, it is recommended that staff members do the following:
 1. Provide a schoolwide effort (Tier 1) to improve vocabulary and comprehension instruction across content areas through ongoing professional development with coaching
 2. Provide ongoing remediation classes (Tier 2) to improve comprehension and vocabulary development for students who are two or more grades below reading expectations but do not demonstrate very low reading or persistent reading disabilities or difficulties
 3. Provide a Tier 3 intervention for students with persistent reading disabilities or difficulties that includes small-group instruction (two to four students) and that is as intensive as the school schedule will allow (minimum of 50 minutes per day)
 4. Consider providing ongoing reading intervention during the summer to students with the most significant reading disabilities

Supporting Resources

- *Academic Literacy Instruction for Adolescents: A Guidance Document From the Center on Instruction*
<http://www.centeroninstruction.org/academic-literacy-instruction-for-adolescents-a-guidance-document-from-the-center-on-instruction>
- *Bringing Literacy Strategies Into Content Instruction*, developed by the Center on Instruction
<http://www.centeroninstruction.org/bringing-literacy-strategies-into-content-instruction>
- *Improving Adolescent Literacy: Effective Classroom and Intervention Practices*, a practice guide developed by the Institute of Education Sciences
<http://ies.ed.gov/ncee/wwc/practiceguide.aspx?sid=8>
- *Interventions for Adolescent Struggling Readers: A Meta-Analysis with Implications for Practice*, developed by the Center on Instruction
<http://www.centeroninstruction.org/interventions-for-adolescent-struggling-readers-a-meta-analysis-with-implications-for-practice>
- *Intensive Interventions for Students Struggling in Reading and Mathematics: A Practice Guide*, developed by the Center on Instruction
<http://www.centeroninstruction.org/intensive-interventions-for-students-struggling-in-reading-and-mathematics>

Additional Guidance for Teachers

The following list of implications for RTI practice for secondary students with reading difficulties is from Vaughn and Fletcher (2012), adapted from Scammacca et al. (2007):

- Adolescence is not too late to intervene. Interventions benefit older students. However, complex comprehension-related problems, such as with developing vocabulary and background knowledge, are unlikely to be readily and quickly remediated.
 - Consider the type of reading problem (e.g., word level, text/background knowledge level, or combined) and focus the treatment to meet students' needs. Older students with reading difficulties benefit from interventions focused at both the word and the text levels.
 - Most older students with reading difficulties benefit from improved knowledge about concepts and vocabulary related to content learning.
 - Because background knowledge and vocabulary are considerably underdeveloped in the vast majority of older students with reading difficulties, schoolwide approaches to enhancing knowledge and vocabulary across Tier 1 content areas (e.g., social studies, science, mathematics, reading/language arts) are needed.
 - Teaching comprehension strategies to older students with reading difficulties is beneficial but is likely insufficient for students who also have significant difficulties with vocabulary, background knowledge, and/or decoding.
 - The reading comprehension gains of students in grades 6 and higher are likely to be significantly smaller than those in other reading and reading-related studies of foundational skills, such as phonemic awareness and phonics.
 - We can expect that remediation of students with significant reading problems who are in grades 6 and higher is likely to take several years.
 - To better understand instructional conditions that could close the reading gap for struggling readers, we need studies that provide instruction for significant periods of time and that assess outcomes across reading areas, including vocabulary, comprehension, and knowledge acquisition.
 - Currently, little evidence supports the claim that more clinically responsive approaches to teaching students with reading disabilities are associated with improved outcomes. However, the development and testing of clinical instructional approaches for students with reading disabilities is needed.
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