Innovation Configuration

Evidence-Based Reading Instruction for Adolescents Grades 6-12

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Innovation Configuration for Evidence-Based Reading Instruction for Adolescents Grades 6-12

This paper features an innovation configuration (IC) matrix that can guide teacher preparation professionals in the development of appropriate use of evidence-based reading instruction for adolescents in Grades 6-12. This matrix appears in the Appendix.

An IC is a tool that identifies and describes the major components of a practice or innovation. With the implementation of any innovation comes a continuum of configurations of implementation from non-use to the ideal. ICs are organized around two dimensions: essential components and degree of implementation (Hall & Hord, 1987; Roy & Hord, 2004). Essential components of the IC—along with descriptors and examples to guide application of the criteria to course work, standards, and classroom practices—are listed in the rows of the far left column of the matrix. Several levels of implementation are defined in the top row of the matrix. For example, no mention of the essential component is the lowest level of implementation and would receive a score of zero. Increasing levels of implementation receive progressively higher scores.

ICs have been used in the development and implementation of educational innovations for at least 30 years (Hall & Hord, 2001; Hall, Loucks, Rutherford, & Newton, 1975; Hord, Rutherford, Huling-Austin, & Hall, 1987; Roy & Hord, 2004). Experts studying educational change in a national research center originally developed these tools, which are used for professional development (PD) in the Concerns-Based Adoption Model (CBAM). The tools have also been used for program evaluation (Hall & Hord, 2001; Roy & Hord, 2004).

Use of this tool to evaluate course syllabi can help teacher preparation leaders ensure that they emphasize proactive, preventative approaches instead of exclusive reliance on behavior reduction strategies. The IC included in the Appendix of this paper is designed for teacher preparation programs, although it can be modified as an observation tool for PD purposes.

The Collaboration for Effective Educator, Development, Accountability, and Reform (CEEDAR) Center ICs are extensions of the seven ICs originally created by the National Comprehensive Center for Teacher Quality (NCCTQ). NCCTQ professionals wrote the above description.

Results of recent national and international assessments indicate a combination of good and bad news about adolescent literacy. First, the National Assessment of Educational Progress (NAEP; 2013) reading results on the May 2014 report indicate that the average reading scores for fourth- and eighth-graders are higher than on previous test administrations. However, only 36% of eighth-graders and 35% of fourth-graders scored at proficient reading levels. Second, both Black and Hispanic eighth-graders had higher average reading scores than on any previous assessment; however, the achievement gaps between Black and Hispanic students and those of White students remain large (NAEP, 2013). Third, high school graduation rates have increased from 74% to 81% for students in freshman classes. However, high school seniors' performance on the national assessment for reading remained the same when comparing the 2013 results with those from 2009 and have decreased since the test was first administered in 1992. See complete results at http://nationsreportcard.gov/reading_math_2013/.

The favorable NAEP (2013) news about students with disabilities is that this population is included in the testing, with accommodations as needed. However, the discouraging news is that about 69% of fourth-graders and 60% of eighth-graders with disabilities scored below basic levels in reading on the 2013 NAEP (see http://nationsreportcard.gov/reading_math_2013/ -/student-groups). An analysis of the 2011 vocabulary assessment revealed that, on average, students with disabilities at all three grades (i.e., fourth grade, eighth grade, and 12th grade) scored lower than students without disabilities (U.S. Department of Education, 2014a).

Overall, the reading scores of secondary students have not significantly improved and have not kept pace with the increasing demands for literacy in the workplace (NAEP, 2011; RAND, 2002; U.S. Department of Education, 2012). Numerous reports published within the past few years have attested to the fact that high school graduates are not prepared for the rigors

of college or the demands of the workplace (Adams, 2011; Hanushek, Peterson, & Woessman, 2014; Kamil et al., 2008; U.S. Department of Education, 2014b).

There are an estimated six to eight million adolescents who struggle with reading in secondary schools (Biancarosa & Snow, 2004; Joftus & Maddox-Dolan, 2003; Vaughn, Denton, & Fletcher, 2010). Some struggling students may have reading disabilities; however, some of these students are not identified until they are in the upper elementary grades or even secondary school when it is difficult to provide the necessary interventions to close the achievement gap (Hock et al., 2009; Leach, Scarborough, & Rescorla, 2003; Vaughn & Fletcher, 2012).

Secondary students with reading difficulties commonly have difficulties with decoding and fluency, which results in poor reading comprehension. Surprisingly, isolated reading comprehension difficulties do not comprise the bulk of struggling readers (Catts, Adlof, & Weismer, 2006; Leach et al., 2003). Rather, difficulty mastering the basic skills of reading contribute to the low levels of comprehension, and adolescent students with reading disabilities typically require interventions that address word-level decoding and fluency development as well as comprehension (Scammacca, Roberts, Vaughn, & Stuebing, 2013; Vaughn et al., 2010). For these reasons, this IC focuses on developing adolescent readers' abilities to decode multisyllabic words, read with prosody, develop vocabulary knowledge, and increase reading comprehension. For secondary students who continue to have difficulties with the foundational skills of reading (i.e., phonemic awareness, basic phonics, and fluency), refer to *Evidence-Based Reading Instruction, Grades K-5* (Lane, 2014).

Teacher Education

The needs of struggling secondary students vary and present unique challenges, requiring teachers to plan instruction according to the needs of each student (Fagella-Luby, Schumaker, &

Deshler, 2008). In addition to students' academic needs, teachers must also address the emotional and motivational needs of these adolescents. Adolescent struggling readers experience a history of failure and frustration and often develop feelings of hopelessness and lack of trust in their abilities to academically succeed. They develop maladaptive habits such as reliance on guessing, fake reading, or just avoiding reading altogether. They realize their knowledge deficits and the challenges awaiting them in the larger world (Moats, 2014; Novosel, 2014; RAND, 2002).

Students with reading difficulties present other challenges for their teachers. Secondary teachers must not only support student reading achievement, but also must ensure that students gain relevant content knowledge despite their reading difficulties, and secondary teachers report that they are rarely prepared to teach students who struggle with reading, particularly in the content areas (Kamil et al., 2008; Ness, 2009; Snow, 2002). When teachers do learn strategies to teach struggling readers, they rarely receive ongoing support, and the strategies often are not implemented with fidelity (James-Burdumy et al., 2009).

Many elementary teachers are also inadequately prepared to teach young students for whom learning to read and write is difficult (Bos, Mather, Dickson, Podhajski, & Chard, 2001; Joshi, Binks, Hougen, Dahlgren, et al., 2009; Joshi, Binks, Hougen, Dean et al., 2009; Moats, 1994; Podhajski, Mather, Nathan, & Sammons 2009), yet they may not realize what they do not know and think they are doing what is best for their students (Cunningham, Perry, Stanovich, & Stanovich, 2004; Spear-Swerling, Brucker, & Alfano, 2003, 2005). However, without the appropriate knowledge and skills, teachers are not able to meet the needs of struggling young readers; consequently, too many elementary students enter secondary schools significantly behind their more able peers. As students age, it becomes increasingly difficult for them to catch

up and become ready for college and their careers. The good news is that when teachers receive appropriate training and support over time, they learn and apply the essential components of reading instruction, and their students make better progress (McCutchen et al., 2002; Moats & Foorman, 2003; Piasta, Connor, Fishman, & Morison, 2009; Spear-Swerling & Brucker, 2003). One reason teachers are not better prepared could be because the instructors who prepare teacher candidates do not have sufficient knowledge about how to teach students who struggle with reading and writing (Binks-Cantrell, Washburn, Joshi, & Hougen, 2012; Cheesman, Hougen, Smartt, 2010; Joshi, Binks, Hougen, Dahlgren, et al., 2009). This IC was designed to provide instructors with knowledge about the most essential components of reading instruction to integrate into their preparation programs. The accompanying IC matrix (see Appendix) and other materials provide additional resources to guide educators in providing candidates with the essential knowledge and skills secondary teachers require to be effective teachers of diverse populations of students.

Organization of the Innovation Configuration

Section 1 of this IC—Evidence-Based Reading Instruction: Knowledge of the Essential Components—presents the knowledge base required by teachers for each essential component. Section 2—Evidence-Based Reading Instruction: Application of the Essential Components—focuses on what teachers must be able to do to effectively apply their knowledge with students with reading disabilities.

Both sections are organized by essential components of reading instruction and tiers, corresponding to a Multi-Tiered System of Supports (MTSS) framework. Tier 1 comprises the knowledge and skills all teachers need in order to address adolescent literacy in core, general education classrooms. Most students with reading difficulties continue to participate in general

education classrooms and are expected to have access and opportunities to learn the curriculum. School wide, all teachers must know how to apply the most efficacious strategies to support reading achievement, particularly vocabulary and comprehension instruction, across all content areas (Vaughn & Fletcher, 2012). This is somewhat different from Tier 1 at the elementary level because at the secondary level, it is more about differentiating and intensifying instruction so that all students can be successful while at the elementary level, the focus is on ameliorating learning difficulties by providing immediate interventions. Although it is true that some students are identified as having disabilities in secondary schools (Wanzek et. al, 2013), the vast majority of students have been identified as having disabilities before they enter the upper grades, and the ability to prevent disabilities is no longer realistic (Vaughn & Fletcher, 2012).

Tier 2 consists of more intensive instruction to students who have not mastered the material presented in Tier 1. Students are typically two or more grades below grade-level reading expectations. In elementary schools, Tier 2 instruction is generally provided by general education teachers to small groups of students, although some schools have specialists who provide more intensive instruction through a pull-out program or in small groups within general education classrooms. However, in secondary schools, it appears to be more effective to provide ongoing remediation classes, typically scheduled as elective classes and taught by qualified teachers (Vaughn & Fletcher, 2012).

Tier 3 instruction focuses on students who struggle most with learning to read. Typically, students requiring intensive intervention are instructed for a minimum of 50 min per day in small groups by specialists and in settings other than general education classrooms. To date, there is no definitive research conclusions that define the most efficacious group size in which to teach

adolescent struggling readers, unlike conclusions recommending small group interventions for elementary students (Vaughn & Fletcher, 2012).

Often, students identified with disabilities receive Tier 3 instruction in classes that may or may not also include other struggling students. Some districts use a four-tiered (or more) model, with more intensive instruction occurring in subsequent tiers; typically, these tiers include only students designated as having disabilities. The teachers who work with the students who struggle the most must have in-depth knowledge about how to effectively teach these students. Recent research indicates that struggling readers, including those identified as have reading disabilities as well as struggling readers not identified with a disability, benefit from intervention (A. Graves, Brandon, Duesbery, McIntosh, & Pyle, 2011; Lovett, Lacerenza, de Palma, & Frijters, 2012; Scammacca et al., 2013; Solis, Miciak, Vaughn, & Fletcher, 2014).

Another difference in implementation in secondary schools is that students do not need to sequentially move through the tiers. When it is already evident that the students have not responded to instruction based on their performance on valid assessments, it is urgent to provide them with more intensive instruction as soon as possible so that no time is wasted addressing their specific needs.

Increasing Intensity of Instruction in Tiers 2 and 3

There are three ways to intensify instruction: (a) work with smaller groups to allow for more opportunities for students to respond and receive feedback; (b) provide more explicit and systematic instruction in order to break down skills into discrete elements; and (c) schedule more time for intensive instruction, including more doses (i.e., more frequent sessions) over a greater period of time (i.e., months or years).

Extensive intervention instruction (i.e., Tier 3) that focuses on word-level skills,

vocabulary, fluency, and comprehension seems to have a small but positive impact on student learning (Edmonds et al., 2009; Scammacca et al., 2007; Wanzek et al., 2013). However, recent research has demonstrated that secondary students with significant reading difficulties, such as students identified with learning disabilities in reading, need intense and sustained interventions to maintain reading growth each year (Wanzek et al., 2013). Accelerating their growth, which is necessary for students to meet grade-level standards, is especially challenging and requires well-prepared, knowledgeable, highly effective teachers.

Definition of Terms

Adolescent Literacy

Adolescent literacy refers to reading instruction for students in Grades 6-12; thus, the foundational skills most students acquire in elementary grades (i.e., phonological skills, phonemic awareness, and listening comprehension) are not emphasized. The essential elements for early reading instruction for Grades K-5 are reviewed in a companion IC (Lane, 2014).

It is important to note that students learn at different rates and bring various skill levels to classrooms, and teachers will encounter secondary students who would benefit from instruction in foundational reading skills. Therefore, it benefits secondary teachers, leaders, and teacher educators to be knowledgeable about early reading instruction so that they can recognize and address the foundational gaps some adolescents may exhibit.

In addition to the basic skills required to read, academic literacy and disciplinary literacy are two concepts that have received considerable attention recently.

Academic Literacy and Disciplinary Literacy

To ensure that all students are prepared for college and their careers, the expectations of students have increased, and the Common Core State Standards (CCSS) and other standards that

emphasize college and career readiness require students to develop academic literacy. Academic literacy refers to the skills required to read, comprehend, and learn from scholarly text in the various disciplines and

> encompasses the kind of reading proficiencies typically assessed on state-level accountability measures, such as the ability to make inferences from text, to learn new vocabulary from context, to link ideas across texts, and to identify and summarize the most important ideas within a text. (Kosanovich, Reed, & Miller, 2010, p. 8)

Disciplinary literacy refers to the specifics of reading, writing, and communicating in a discipline. It focuses on the ways of thinking, the skills, and the tools experts in the disciplines use (Shanahan & Shanahan, 2012).

Limitations of the Innovation Configuration

Reading is a complex activity, and successful reading includes multiple interrelated processes. Because of space limitations, this IC addresses many, but not all, essential components of an efficacious secondary reading program. For example, there is not space to discuss how to motivate adolescents to actively engage in literacy skills or how to create a positive social-emotional climate, both of which are essential considerations for secondary schools (Guthrie, Anderson, Alao, & Rinehart, 1999; Guthrie & David, 2003; Kamil et al., 2008; Novosel, 2013; Kent, Wanzek, Swanson, & Vaughn, 2015). However, attention is given to how to support students in acquiring the requisite skills that enable them to be successful readers and become more motivated to read and further develop their skills.

This IC also does not address the essential skill of writing to develop literacy. Writing complements reading, and both reading and writing skills must be taught simultaneously. See *Evidence-Based Practices for Writing Instruction* (Troia, 2014).

Finally, this IC does not address specific knowledge and skills to teach adolescent English language learners; however, the principles and strategies discussed will support students learning English, although more principles and strategies may be necessary.

It is also important to note that much of the cited research has limitations related to the generalizability of the conclusions, usually based on the low number of studies, particularly in Grades 9-12; the low number of subjects; and the lack of specificity about the subjects (e.g., socioeconomic status [SES], race, first language; Reed, Sorrells, Cole, & Takakawa, 2013). References and additional resources are provided for those who want more information regarding the essential components of adolescent literacy.

Evidence-Based Reading Instruction: Knowledge of the Essential Components

During the past three decades, a convergence of evidence has isolated the skills that typify good readers (Adams, 1990; Chall, 1967; Chall, 1983; National Reading Panel [NRP], 2000). These skills include those that are typically mastered by young children, including knowledge of the structure of language, listening skills, phonological awareness (especially phonemic awareness), and the alphabetic principle. Good readers learn to decode words by analyzing every letter, mapping the letter to its sound, and blending the sounds together to read a word. For typical readers with efficient working memory, the ability to decode words becomes automatic with practice, freeing cognitive space to concentrate on meaning (Adams, 1990; Ehri, 2005, 2014). People who learn to easily read typically continue to read and become even better readers (Stanovich, 1986). They learn massive amounts of vocabulary through reading, gain knowledge about their world, and begin to read with fluency and prosody. Good readers recognize the meaning in what they read and hone their comprehension skills to include the ability to summarize, make inferences, compare and contrast passages, question what they read,

and relate new learning to current knowledge. They monitor their understandings and utilize appropriate problem-solving skills to improve comprehension. Good readers can coordinate these complex skills and apply effective strategies before, during, and after reading. Consequently, good readers experience the wonder, joy, and utility of reading. However, if one does not learn these skills, reading can be difficult and laborious, affecting academic success in all subjects and often leading to a life of struggle and frustration. Therefore, teachers must know how to scaffold the development of each requisite reading skill so that students learn to efficiently and effectively apply the skills. All of these skills are like separate strands of a rope that, when woven tightly together, result in skilled reading (Scarborough, 2001).

Essential Component 1: Word Recognition and Word Study

Word Recognition

The ability to effectively and efficiently decode words is necessary for reading comprehension (Boardman et al., 2008; Nagy, Berninger, & Abbott, 2006; Scammacca et al., 2007; Wharton-McDonald & Swiger; 2009). Researchers have determined that about one-third of middle school struggling readers have difficulty at the basic word level, and they have difficulty with comprehension (Brasseur-Hock, Hock, Kieffer, Biancarosa, & Deshler 2011; Paulesu et al., 2001; Scammacca et al., 2013; Vaughn et al., 2010). Struggling adolescent readers may be able to read single-syllable words but must be taught strategies to decode multisyllabic words common in complex texts (Archer, Gleason, & Vachon, 2003). To do this well, students must be taught explicit strategies to decode unknown words (Biancarosa & Snow, 2004; Pearson & Gallagher, 1983). Teachers who use explicit instruction explain the strategy, model the process, provide guided practice with scaffolding, and, finally, require independent application of the strategy.

There are three strategies students can learn to apply while reading unfamiliar words—decoding, analogizing, and predicting (Ehri, 2014). Students use a decoding strategy by transforming the graphemes (i.e., letters) into a blend of phonemes to pronounce the word. If the word is familiar, students can decode it and then check to see if the word makes sense in context. The second strategy, analogizing, is useful to readers who have a large number of words stored in memory. They can recognize familiar patterns and figure out similar words such as *dictate*, *dictation*, and *dictator*. Students apply the predicting strategy to read words by using the context cues in the passage to anticipate the unfamiliar word and then match the pronunciation with the spelling to verify that the sounds fit the letters (Ehri, 2014).

Word Study

By the time students enter Grade 6, they should know the most common Anglo-Saxon consonant and vowel sounds and orthographic patterns, irregular Anglo-Saxon words, multisyllabic words, and the most common prefixes and suffixes. In Grades 6-7, they learn more complex Latin-based forms and Greek-combining forms and are prepared to tackle words such as *isotherm*, *psychology*, *and geography*. They understand the importance of a word's etymology and can explain, for example, that *chorus* starts with a /k/ sound because it is derived from Greek and that *fillet* ends with a long /a/ because it is derived from French. Word study interventions that address concepts that relate semantic connections and morphology have significant positive effects on student reading achievement (Moats, 2006; Scammacca et al., 2007).

Tier 1: General Education Core Classroom Instruction for All Students

Decoding multisyllabic words is a challenge for some readers. Struggling readers typically skip long words because they do not know how to decode them; however, these long

words are usually important content words and when not decoded, students are unlikely to comprehend the passage. Students who struggle with decoding, no matter how old they are, benefit from instruction in this basic skill (Vaughn et al., 2008).

To support the decoding of multisyllabic words, students must know the basic rules for dividing words, the six types of syllables, and common prefixes and suffixes. Helpful rules include decoding words with endings such as dropping the silent-e, doubling a consonant, and changing /y/ to /i/ (O'Connor, 2007). The syllable types students should learn to identify and read are closed, open, vowel-consonant-e, vowel-team, r-controlled, and final stable syllable (i.e., consonant-le and *tion*). Students learn to isolate the syllables so that they can strategically attack one part at a time, eliminating guessing and increasing accurate decoding (Tolman & Moats, 2014). For example, students learn that *bugle* is read as *bu-gle*, not *bug-le* because students recognize that *-gle* is a consonant-le syllable, and *bu* is an open syllable, and the vowel is long. Knowing the most common prefixes and suffixes also helps students decode words. Once they can isolate or separate the prefixes and suffixes, they can break the long words into parts. For example, the word *unconstitutional* consists of two prefixes (i.e., *un* and *con)* and one suffix (i.e., *al)*; *tion* is a final stable syllable, leaving *stitu* left to decode. Even if students read the word part with a long /i/ sound instead of the short /i/, they should be able to figure out the word, especially if they have been hearing it in class for days. The variability in the sounds of the English language necessitates students learning to be flexible decoders and confirming the pronunciation by ensuring it makes sense in the context (Tunmer & Chapman, 2012).

Core content teachers should incorporate word decoding in their general instruction for all students. Teachers can develop a routine for decoding unfamiliar words in their content areas, breaking the words into syllables and providing practice reading the words, saying the

words aloud, and discussing the meaning of the words to help students retain the words (Archer & Hughes, 2011). All teachers—general and special educators—can reinforce these skills.

Tiers 2 and 3: Intervention Instruction for Word Recognition and Word Study

Students with reading difficulties require intensive strategy instruction to decode multisyllabic words. Effective strategy instruction provides the rationale for the use of the strategy; clear and systematic steps to accomplish the task, often using a mnemonic to assist in the retention of the strategy; teacher modeling; guided practice; and independent practice in different venues to ensure generalization. Refer to *Professional Development in Effective Learning Strategy Instruction* (Schumaker, 2009) for additional information about selecting teaching strategies. General education teachers and intervention instructors can teach small groups of students how to systematically decode words. Four research-based strategies designed to help students decode unknown words are identified using a mnemonic: BEST, DISSECT, SPLIT, and REWARDS. These strategies, listed below, must be explicitly taught over time with ample opportunities for practice applying the strategy in various situations.

- BEST (O'Connor et al., 2007)

  Break the word apart

  Examine each part

  Say each part

  Try the whole thing in context

- DISSECT (a substep of the Word Identification Strategy; Lenz, Shumaker, Deshler, & Beals, 1996; Woodruff, Schumaker, & Deshler, 2002).

  Discover the contest

  Isolate the prefix

Separate the suffix

Say the stem

Examine the stem

Check with someone

Try the dictionary

- SPLIT (Bryant & Bryant, 2002; Bryant & Bryant, 2003; Bryant & Bryant, 2014)

  See the syllable patterns

  Place a line between each syllable

  Look at each syllable

  Identify the syllable sounds

  Try to say the word

- REWARDS: Reading Excellence: Word Attack & Rate Development Strategies (Archer, Gleason, & Vachon, 2000). The steps of this multisyllabic word reading strategy include (a) circle word parts at the beginning and end of each word, (b) underline each vowel sound, (c) read the word aloud part by part, and (d) say the whole word.

There are several commercial products available to assess decoding skills and standardized programs that are effective for teaching adolescents basic decoding skills (Archer et al., 2000; Deshler, Palincsar, Biancarosa, & Nair, 2007; Johnston, Bear, Invernizzi, & Templeton, 2009). The following organizations have websites that provide research-based strategies and materials for teachers, including:

- Center on Instruction (http://www.centeroninstruction.org)
- Center on Research and Learning (www.ku-crl.org)

- Center on Response to Intervention (www.rti4success.org)
- IRIS Center (iris.peabody.vanderbilt.edu)
- Meadows Center for Preventing Education Risk (www.meadowscenter.org)
- Middle School Matters Institute (http://www.meadowscenter.org/institutes/middle-school-matters; The Meadows Center for Preventing Educational Risk, 2013)
- National Center on Intensive Intervention (http://www.intensiveintervention.org)
- National Center on Student Progress Monitoring (www.studentprogress.org)

Essential Component 2: Fluency

Fluency is defined as reading with reasonable accuracy at an appropriate rate with suitable prosody that leads to accurate and deep comprehension and motivation to read (Hasbrouck & Glaser, 2012). Fluency has been a focus of elementary reading instruction for decades, and recent research suggests that it is also a significant variable in secondary students' reading and overall academic development (Chard, 2012; Rasinski et al., 2005; Rasinski, Reutzel, Chard, & Thompson, 2011; Rasinski, Rikli, & Johnston, 2009).

Since the 1970s, there has been a flurry of research about fluency and its relationship to comprehension (Rasinski et al., 2011). It has been confirmed that the human brain, once sufficient learning has occurred, can perform tasks such as reading at an automatic, nearly unconscious level. Readers who have achieved automaticity (i.e., immediately and effortlessly recognizing words in print) can allocate their cognitive processes (i.e., thinking) to the meaning of what is being read rather than thinking about how to decode the words. When readers have to devote a significant amount of their cognitive resources to decoding and recognizing words, the cognitive resources available for paying attention and processing information are limited, resulting in impaired comprehension. Therefore, it is important that students become fluent

readers, reading text with minimal effort so that they can concentrate on the meaning of the text (Hasbrouck & Hougen, 2014).

Readers must employ a rate of reading that is appropriate to the task (i.e., neither too fast nor too slow) in order to facilitate comprehension. Of course, the brain must process information that is reasonably accurate in order for comprehension to occur. Thus, comprehension is impaired or limited by reading too fast, too slow, or inaccurately and is facilitated by reading at the appropriate rate for the task with reasonable accuracy. In other words, fluent reading assists comprehension.

To be considered on level in fluency, students should be able to read aloud an unrehearsed passage (i.e., either narrative or expository, fiction or non-fiction, and perhaps 200 to 300 words in length) from a grade-level text with at least 95% accuracy in word reading. As students read aloud, their reading should sound as effortless as if they were speaking (Hasbrouck & Glaser, 2012). If teachers time students reading orally for 1 min and count the errors made during that period, they should expect to see a score of approximately 150 words or more correct for students in Grades 6-12, at least by the end of the year when the students have had a chance to benefit from a year's worth of practice and experience at that grade level (Hasbrouck & Tindal, 2006). It is likely that students have not acquired sufficient fluency skills if the words-correct-per-minute score is less than 150; accuracy on the entire passage is below 95%; and reading is halting, labored, or oddly paced. Students may also be struggling with other reading issues such as vocabulary, word recognition, or decoding. Poor fluency indicates that there may be a reading problem, but what is causing the problem cannot be known until further assessment is completed (Hasbrouck, 2010). Note: It is sufficient for students to read unpracticed, grade-level text at the 50th percentile of oral reading fluency norms (Hasbrouck &

Tindall, 2006); teachers do not need to have students read faster because there is no evidence that reading faster than the 50th percentile increases comprehension.

Students who read fluently with appropriate prosody tend to have adequate comprehension (Kuhn, Schwanenflugel, & Meisinger, 2010). There are students who are accurate word callers but read with no prosody and limited comprehension. Reading with prosody, as evidenced by appropriate phrasing and emphasis on accurate word reading as well as pausing and stopping appropriately, indicates an understanding of the passage.

It must be noted that it is very difficult to achieve significant improvement in the fluency of secondary students with reading disabilities (Scammacca et al., 2007; Torgesen et al., 2007; Vaughn & Fletcher, 2012). However, with a well implemented, targeted intervention, adolescents can make significant gains in fluency (Hasbrouck, Ihnot & Rogers, 1999). Therefore, it is important that secondary teachers are aware of technology (e.g., recorded books, computer programs) that can support students in accessing the curriculum. Teachers must instruct students to use technology to ensure that students continue to develop vocabulary and content knowledge and that they not be limited only to material they can read fluently. Instructional technology is discussed later in this IC.

Evidence-Based Reading Instruction: Fluency

Tier 1: General Education Core Classroom Instruction for All Students

The most effective ways to improve fluency include wide reading and repeated reading. Fluency can improve with a great deal of well-monitored wide reading (Reutzel, Jones, Fawson, & Smith, 2008); therefore, encouraging students to read a variety of texts is essential. However, round-robin reading, sustained silent reading (SSR), or drop-everything-and-read (DEAR) activities are not the most effective use of time, especially for struggling readers (Faggella-Luby

& Wardwell, 2011; Hasbrouck, 2006; NRP, 2000). Rather, teachers in general education classrooms can implement the following techniques to reinforce fluent reading:

- Choral reading of short passages in which students read text aloud in unison with the teacher.
- Cloze reading in which the teacher reads while students follow along silently; the teacher randomly pauses, and the students read the omitted word aloud.
- Repeated reading in which students reread the same material several times. This practice can be made more interesting if the students are preparing to read aloud for others (e.g., performing a play, reading to younger students, recording themselves reading).
- Structured partner reading in which students take turns reading and giving feedback.
- Scaffolded, structured silent reading in which students have a purpose for reading, and the teacher monitors their progress.

Tiers 2 and 3: Intervention Instruction

Recent research indicates that fluency growth rates for middle school students is at a much lower rate than for elementary students (Solis et al., 2014; Vaughn, Wexler, et al., 2011). Although the gains may be slow, progress can be made, and students should be encouraged to read as much as possible in a variety of texts, including reading with teacher support and reading difficult texts (Shanahan, 2014).

It is important that students take responsibility for monitoring their fluency progress. However, because of their slow rates of growth, it may behoove secondary students to measure their progress less frequently than younger readers measure their progress (Vaughn & Fletcher, 2012). An effective way to monitor progress in fluency is to chart the number of words read per

minute (Fuchs, Fuchs, Mathes, & Simmons, 1997; Hasbrouck, 2006; Hasbrouck, Ihnot, & Rogers, 1999; Kuhn et al., 2010; Kuhn et al., 2006; National Institute of Child Health and Human Development [NICHD], 2000; Osborn, Lehr, & Hiebert, 2002; Rasinski et al., 2005; Reutzel et al., 2008; Schreiber, 1991; Stahl & Heuback, 2005). Typically, students chart the number of words read on a cold passage (i.e., a text they have never read). Then, they practice reading the passage three to four times and again read for 1 min and count the number of words read correctly. This is their hot—or rehearsed—reading. Students generally progress, so charting the hot read is motivating. Once students learn to read words with sufficient accuracy, 15 min of daily, repeated oral reading of a challenging passage is beneficial for struggling secondary readers (Hasbrouck et al., 1999).

Essential Component 3: Vocabulary

Vocabulary refers to knowledge of word meanings. Vocabulary supports comprehension, and the ability to read with comprehension helps to ensure school success. However, approximately 70% of students in middle and high school experience difficulties with vocabulary and reading comprehension (Biancarosa & Snow, 2004). It is paramount that schools implement school-wide strategies to raise the level of vocabulary across content areas. All students, including those with disabilities, English language learners, and accelerated learners, benefit from increasing their vocabulary. General education teachers in all content areas have multiple opportunities to involve students in engaging and productive vocabulary learning.

Role of Vocabulary in Comprehension

Students' knowledge of vocabulary is highly related to their abilities to comprehend complex text (Carlo et al., 2004; Cunningham & Stanovich, 1997; Hirsch, 2006; Nagy, Berninger, Abbott, Vaughn, & Vermeulen, 2003) and achieve overall academic success

(Baumann, Kame'enui, & Ash, 2003). Secondary students encounter 10,000 or more new words per year and are expected to learn 3,000 new meanings per year just to keep up; most of these words pertain to specific disciplines, and many are low-frequency, complex, multisyllabic words (Moats, 2014; Nagy et al., 2006). Students must know what words mean and have opportunities to use words in their various forms. Researchers have found that it takes between 12 and 17 exposures to a word before students learn it (Ausubel & Youssef, 1965; McKeown, Beck, Omanson, & Pople, 1985). Therefore, it is important that teachers know how to provide explicit vocabulary instruction for all students.

Tier 1: General Education Classroom

Teachers can enhance their vocabulary instruction and improve students' retention of new words by applying the following principles summarized by A. Archer (personal communication, May 25, 2010):

- Multiple exposure to words: Students read targeted vocabulary words in different contexts and use the words while speaking and writing. Teachers throughout the school use the new word. Some schools post the words in halls, place them on cafeteria tables, and hang them in bathrooms.
- Learn new words with deep understanding: The selected words are learned well. Students know examples and non-examples, word origins, derivations, and word families. In-depth learning ensures that students will be able to remember and use the words.
- Connect to what students know: If students have the conceptual background to understand a word, they can learn the meaning of any word. Teachers must connect the new concept to what students already know and build upon that knowledge.

In summary, explicit vocabulary instruction (Beck, Perfetti, & McKeown, 1982), integrated into the content being studied (Baumann et al., 2003) with ample opportunities to say, read, and write the words in various contexts, enhances students' abilities to learn new words (M. F. Graves, 2006).

Additive, Generative, and Academic Vocabulary Instruction

Vocabulary instruction can be classified in one of three categories: (a) additive vocabulary instruction focuses on teaching specific words, (b) generative vocabulary instruction emphasizes word-learning strategies, and (c) academic vocabulary instruction relates to specific disciplines (Boardman et al., 2008).

Additive vocabulary instruction involves teaching new words to students. It involves careful selection of words to teach students and teaching the words in an engaging way.

Generative vocabulary instruction expands students' vocabularies by using their existing knowledge of words (e.g., root and base words, prefixes, suffixes) as well as morphemic analysis and the use of context to learn. Students begin to notice word families and word parts (Nagy, 2007; Nagy et al., 2006) to discern the meanings of new words (e.g., *diction*, *dictator*, *dictionary*, *contradict*, *indicator*). Baumann and colleagues (2002) suggested teaching a multipart vocabulary strategy that includes contextual analysis to infer a word's meaning, morphemic analysis to derive a word's meaning, and the dictionary to confirm a word's meaning.

Academic vocabulary instruction is most important for secondary students. Using the principles used to teach additive and generative vocabulary words, teachers must directly teach academic vocabulary, pointing out the characteristics of the words and providing multiple opportunities for practice using the words in the context of the content.

Morphological awareness is the knowledge and awareness that complex words are formed with meaning-bearing elements called morphemes—the smallest meaningful part of a word. English morphemes are classified as prefixes, roots, or suffixes. Prefixes and suffixes are collectively called affixes. In addition to knowledge and awareness, morphological awareness includes a willingness or aptitude to apply morphemic analysis while decoding (i.e., reading); encoding (i.e., spelling); and inferring the meanings of words. This type of linguistic insight is critical to literacy; indeed, morphological awareness accounts for about 50% of the variance in vocabulary knowledge in fifth-graders in situations in which complex words are prevalent (Carlisle, 2000). This means that students who do not know the most common prefixes, suffixes, and base words will know significantly fewer words than their more linguistically educated peers. In addition, knowledge of word structure (e.g., morphological knowledge), including familiarity with common affixes and roots, enables students to spell and read with greater competence (Ebbers & Hougen, 2014; Moats, 2006).

Selection of Vocabulary Words to Teach

It is crucial that teachers are thoughtful about which words deserve valuable instructional time; they must determine which words they should directly teach to students and which words students can independently learn. Ebbers and Hougen (2014) recommended that, when possible, teachers select academic words that are unique to their content and words that occur across all subject areas. In other words, teachers should teach discipline-specific words like *amoeba*, *hypotenuse*, and *allegory*—words that flow from their texts. These are called Tier 3 words, or bricks of meaning. Also, to support general academic growth, teachers should teach Tier 2 words—words that occur in many school texts. These words are the scholarly mortar that fills

the spaces between the bricks in academic texts—words like *demonstrate*, *diminish*, and *extrapolate*.

While selecting words to teach, teachers should strive to choose words that belong to a large morphological family. A morphological family is a set of words, such as *vapor*, *evaporate*, *evaporation*, *vaporize*, and *evaporative*, that share the same base. In contrast, teachers should consider the lonely isolation of *mistletoe* and *umbrella*, which are not bolstered by several morphologically related words. Readers tend to read words more quickly and more accurately if they belong to a fairly large and semantically tight morphological family (Carlisle & Katz, 2006). Readers access such words more readily because they appear to reinforce each other in the mind.

In addition, teachers should consider teaching the linguistic concept of multiple meanings, or polysemy, to all students. Words that convey more than one meaning may be particularly problematic for language learners (Snow & Kim, 2007; Stahl, 1999). For example, *power* has several meanings and applications. How is it used in math? In science? In everyday speech? (Ebbers & Hougen, 2014).

Archer & Hughes (2011) suggested selecting words that are (a) unknown; (b) important for understanding the text; (c) likely to be heard, read, written, and spoken in the future; (d) difficult to learn and need interpretation (i.e., unknown or complex concepts); (e) abstract; and (f) difficult to pronounce.

Developing Word Consciousness

Word consciousness refers to an awareness of and interest in language, words, and phrases (Anderson & Nagy, 1992; M. F. Graves & Watts-Taffe, 2002; Scott & Nagy, 2004). It includes an awareness of connotations of words (i.e., the emotions a word may prompt) as well

as the pragmatics of language (i.e., how language may differ in varying social situations; for example, one uses language differently while speaking to a friend at the gym vs. speaking to the principal in the school office). Playing with words can be engaging for students (Scott, Skobel, & Wells, 2008). Imagine the debate secondary students could have about whether it is better to be *skinny*, *thin*, *slender*, or *emaciated*. If teachers model an enthusiasm for and interest in vocabulary and language, their students will become more interested. Indeed, research has recently converged to the point where Nagy (2007), a prominent vocabulary researcher, has made the strong statement, "Vocabulary instruction needs to be more explicitly metalinguistic—that is, word consciousness is an obligatory, not an optional, component" (p. 54).

Evidence-Based Reading Instruction: Vocabulary

Tier 1: General Education Core Classroom Instruction for All Students

Explicit vocabulary instruction. The evidence supporting explicit instruction of vocabulary is abundant. Archer and Hughes (2011) summarized the research and highlighted the following points:

- Students receiving explicit, engaging vocabulary instruction experience growth in vocabulary (Tomesen & Aarnoutse, 1998; White, Graves, & Slater, 1990).
- When students receive intentional teaching of target words, their comprehension of text containing those words improves (McKeown et al., 1985; Stahl & Fairbanks, 1986).
- Most new words learned in upper grades are the result of wide reading and explicit instruction on vocabulary words.

- Explicit vocabulary instruction is particularly critical for struggling readers who may not read extensively and have difficulty using context to determine word meanings (Beck, McKeown, & Kucan, 2002).

A vocabulary instructional routine is helpful for both teachers and students. Archer and Hughes (2011) developed a routine teachers can follow while teaching new words. It consists of the following four steps with options depending upon the word taught, the context, and student needs:

- Introduce the word (i.e., pronunciation, decoding, and modeling).
- Introduce the meaning of the word. Options include the following:
  - Provide a student-friendly explanation.
  - Guide students in analyzing the meaningful parts of the word.
  - Have students determine the critical attributes embedded in a glossary definition.
  - Assist English language learners in recognizing cognates.
- Illustrate with examples.
- Check for understanding.

Repeated exposures in multiple contexts. Repeated exposures to words used in various contexts solidify the vocabulary words for students. Such exposures may also make students aware of multiple-meaning words that abound in English. As students become conscious of polysemy, they will be more likely to notice the different meanings of words in different contexts such as musical *pitch* versus baseball *pitch* or *solution* in chemistry versus *solution* in math class.

Morphological analysis. Morphology refers to the study of the smallest units of meaning in the English language (i.e., morphemes) and includes roots, prefixes, and suffixes. Students with knowledge of morphology substantially increase their vocabulary breadth and

depth (E. C. Edwards, Font, Baumann, & Boland, 2004) as well as their ability to use context to support comprehension (Baumann, Ware, & Edwards, 2007; Diamond & Gutlohn, 2006; Nagy, 2007; Stahl, 1999). Explicit instruction in identifying prefixes and suffixes and learning the meanings of the most common affixes enables students to decode and understand the meaning of hundreds of words and word families, thus more quickly and broadly expanding their vocabulary than when they memorize lists of unrelated words (Gutlohn & Besselieu, 2014). The following strategy—The Outside-In Strategy: Inferring Word Meaning from Morphological Clues and Context (Ebbers & Denton, 2008)—is an example of a strategy that uses context and morphological clues to infer word meanings.

- Look outside the word at context clues in neighboring words and sentences.
- Look inside the word at the word parts (i.e., prefix, root, and suffix).
- Re-read the entire context, keeping the meaningful word parts in mind.
- Make an inference about the meaning of the word. Does it make sense in the context of the passage?

Use of graphic organizers. Activities that allow students to learn the in-depth meanings of words and manipulate the words in context are effective. Word webs, word lines, semantic mapping, and word maps are useful graphic organizers that support all students, including those with disabilities, as they learn the meaning of words (Dexter & Hughes, 2011; Heimlich & Pittelman, 1986; Novak, 1993; Reutebuch, Ciullo, & Vaughn, 2013; Schwartz & Raphael, 1985). Three examples are verbal and visual word associations, semantic maps, and vocabulary frames.

Verbal and visual word associations. Frayer Diagrams (Frayer, Frederick, & Klausmeier, 1969) created visual and verbal word associations to help students learn new words. In the example below (see Figure 1), the vocabulary word—*salubrious*—is written in the upper

left of a box. The student-friendly definition—*promoting health*—is written below. An example or image—*surfing*—is in the upper right box, and a non-example—*smoking*—is in the bottom right box. On the back, students can draw a picture or write a story about the word. While students discuss their diagram with others, they are given opportunities to say and hear the word and explain their examples, further reinforcing learning of the word.

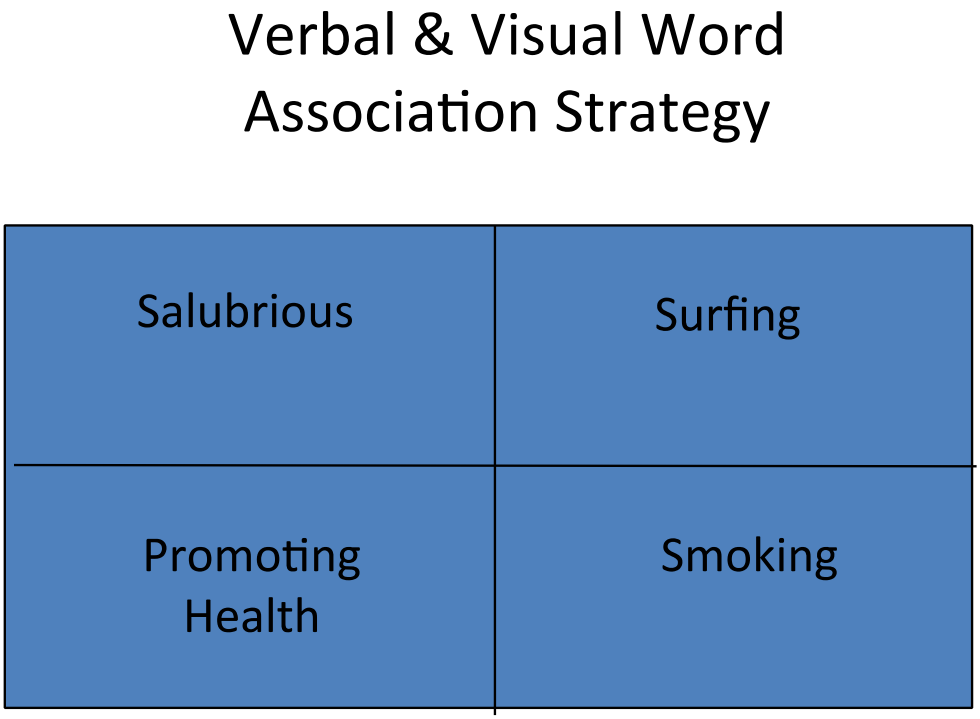
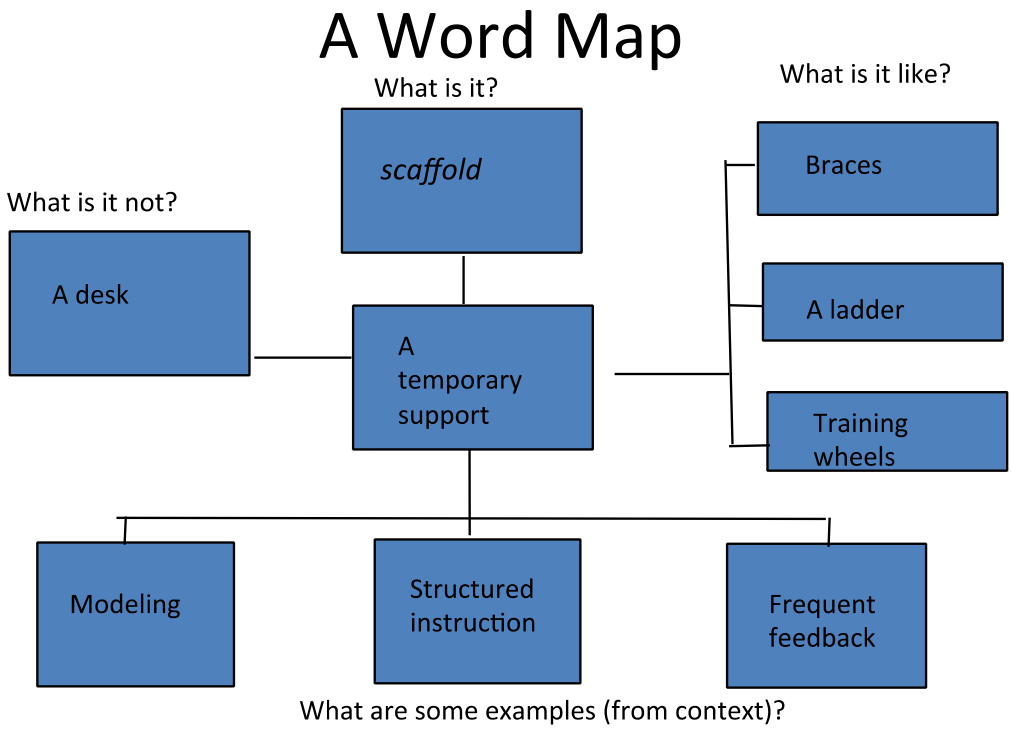


Figure 1. Using the verbal and visual word association strategy for the word *salubrious* can help students study and retain a personally meaningful conception of the word.

Semantic or concept maps. Semantic or concept maps are graphic organizers that also highlight examples and non-examples and include concrete examples familiar to students and examples from the texts they are reading. The example below (see Figure 2) features the word *scaffold*, an important concept for teachers to understand and apply.



Schwartz, 1988; Scwartz and Raphael, 1986.

Figure 2. A word map is a visual representation of a definition. This type of mapping is often applied to reading instruction.

Vocabulary frames. Vocabulary frames are helpful for terms with concise definitions and concepts with elaborated definitions to be used before, during, and after reading to gain deep understanding of the most important concepts necessary to understand a topic (Ellis, 2013). Online tools, beneficial for all students, are especially convenient for teachers and students (see http://www.graphicorganizers.com).

Tiers 2 and 3: Intervention Instruction

Struggling readers generally know fewer vocabulary words than their peers because they read less and what they read often does not include complex vocabulary. Therefore, intervention teachers must provide opportunities for students to read challenging material at their frustration levels, with teacher support, so that students are exposed to a higher level of vocabulary.

Teachers can assess students' levels of word knowledge (Gutlohn & Besselieu, 2014) and pre-teach words they will encounter in their core classes. Students should also learn to use context and morphological cues to discern word meaning. The same strategies that were suggested for use in Tier 1 are helpful to students in Tiers 2 and 3, although the instruction may have to be more explicit and systematic, with more modeling by teachers and more practice opportunities provided to the students.

Furthermore, intervention teachers must ensure that students practice correctly pronouncing complicated words. All students must hear and say new words, and students who struggle typically need more practice in this area. Consider words such as *statistically*, *epitome*, and *contraindicative*. Teachers should briefly model how to say the word, point out the syllabic breaks, and note the stressed syllable(s). Students should immediately use the words in an appropriate context several times, with teachers providing corrective feedback. This practice is helpful for all students, particularly English language learners, struggling readers, and students with speech impairments (Ebbers & Hougen, 2014).

Essential Component 5: Text Comprehension

The goal of reading is to gain understanding and meaning from texts. What follows details what teachers can do to support comprehension before, during, and after students read the increasingly complex texts they are likely to encounter in secondary schools (Adams, 2011; Hiebert, 2012).

Several studies have identified the most effective comprehension strategies, some taught singly and others as part of a multicomponent strategy in general and special education classes (Dole, Duffy, Roehler, & Pearson, 1991; Hughes, Maccini, & Gagnon, 2003; NRP, 2000; Pressley, Johnson, Symons, & McGoldrick 1989; Solis et al., 2012). The most efficacious

strategies were summarizing, self-questioning, story structure instruction, graphic and semantic organizers, and comprehension monitoring (Dole et al., 1991; Solis et al., 2012). Recently, the importance of teaching students to read disciplinary texts (i.e., science, mathematics, English/language arts, and social studies/history) has been emphasized (Fang, 2012; Jetton & Shanahan, 2012; Lee & Spratley, 2010; Moje, 2008; Schoenbach, Greenleaf, & Murphy, 2012; Shanahan, 2012; Shanahan & Shanahan, 2008). Each discipline uses language in unique ways and requires different perspectives in order to arrive at deep understandings of the texts.

Tier 1: General Education Core Classroom Instruction for All Students

Direct and explicit teaching of comprehension strategies is recommended for all students and is essential for students who struggle and those with disabilities (Duke & Pearson, 2002; Kamil et al., 2008; NRP, 2000; Pressley, 2002). Direct and explicit instruction is required while students are learning new skills (Rosenshine, 2012); once the skills are mastered, students can independently apply them to make meaning of texts. For example, before giving students a complex text that requires them to formulate multiple inferences, teachers should teach students the concept of an inference. Introduce the concept using concrete examples with which students are familiar. One example is to "find" a backpack. The teacher models unpacking the backpack, finding clues about who the owner may be. After unpacking a softball, a pink brush, a homework assignment from a seventh-grade teacher, and sheet music for a trumpet, the students can infer the backpack belongs to a seventh-grade girl who plays softball and is in the band. Moving from concrete to simple drawings (e.g., a cat quaking before a large dog) to increasingly complex text is one way to scaffold learning to make inferences.

Too often, teachers assess comprehension by asking questions of students rather than teaching students how to comprehend complex text on their own. The following are strategies to

teach students to learn to independently apply strategies to comprehend text. Please note that it is better to teach a limited number of strategies well, ensuring the students are independently applying the strategies in different settings, than to introduce students to a list of strategies with limited time to practice independently applying them.

Before-reading strategies. Secondary students may need to receive background knowledge before they read a selected text, or they should be given opportunities to learn the information they need to know before reading. However this is done, it should take a limited amount of time. This is a shift in the thinking emphasized by CCSS (Coleman & Pimentel, 2012). Usually, just a few minutes of instructional time is needed to provide background information.

Next, students preview the text and make quick predictions about what the passage may be about. This should take no more than 2 to 5 min. Students read the title of the passage; look at the bold print, graphics, tables and charts; and think about what the text is going to be about. The purpose for reading should be clear to students. This ties in with close reading, which is addressed later in this section.

As students read, they monitor and adjust how they are reading and notice when comprehension breaks down. In other words, they think while reading, asking themselves questions, annotating text, paraphrasing chunks of text, and using fix-up strategies when they do not understand. These are complex metacognitive skills; just getting adolescents to consistently realize when they do not understand and routinely stop and contemplate what they can do to figure out the text is a significant accomplishment.

After students read, they should summarize the text. Teaching students to consider the main ideas of the text and succinctly summarize what the entire text is about is a challenge,

especially while reading complex text. Again, starting with small chunks of text and gradually building to more text is one way to scaffold learning. Graphic organizers can help support student efforts; sentence stems and incomplete sentences also helps students.

Multicomponent strategies. Multicomponent strategies—families of strategies—focus on the most effective before, during, and after reading strategies and generally result in better comprehension than single-strategy training (Kamil et al., 2008). Students are explicitly taught each strategy and practice using each one until they are able to independently apply the strategies across genres and subjects. Students must own the strategies, knowing when and how to use them, how to tweak them to suit the text being read, and how to evaluate the use of the strategies. Two evidence-based multicomponent strategies are Collaborative Strategic Reading (CSR) and reciprocal teaching.

***Collaborative strategic reading*.** (Bryant, Linan-Thompson, Ugel, Hamff, & Hougen, 2001; Bryant et al., 2000; Klingner, Vaughn, Boardman, & Swanson, 2012; Vaughn, Klingner, et al., 2011). CSR is a multicomponent framework used to increase reading comprehension. It has been used in heterogeneous classrooms, enabling students with different levels of skills to work together to comprehend complex text. As with all strategies, teachers directly and systematically teach each component of the strategy. When students have learned each component, they independently practice applying it, and then they work in small collaborative groups. It takes about one semester for students to learn CSR. It is recommended that students apply the strategy with teacher support once per week in each class (i.e., science, social studies, and English/language arts; Vaughn, Klinger, et al., 2011). The component strategies are as follows:

- Before reading: Preview and predict

- The teacher guides students through the process of looking at pictures, headings, and subtitles.
- The class discusses what students already know about the topic, and then the students write predictions based on the preview about what they expect to learn.
- Additional ideas to generate interest or support background knowledge about the topic can also be included (e.g., video, pictures) as well as pre-teaching vocabulary and providing students with opportunities to practice and discuss the new vocabulary, which is key for English language learners and students with reading difficulties.

- During reading: Click & Clunk and Get the Gist. Students silently or orally read a passage as a small group and consider the following steps:
  - Clicking refers to the smooth and fluent reading with understanding.
  - Clunks are challenging words or phrases encountered during reading. Students practice using fix-up strategies to decipher clunks. Fix-up strategies include re-reading and looking for the context clues; re-reading the sentence before and after the sentence where a clunk was located; using prefixes, suffixes, root words, or words within the word that students know; and looking for cognates, which is especially useful for English language learners.
  - Get the Gist is a strategy for identifying the main idea. After reading a paragraph or section, students compose a gist statement. This is a sentence of the main idea of that section of text. Students discuss their clunks and gist statements in their groups. There are three steps to create a good gist statement. First, students locate the most pertinent *who* or *what* from that section of text.

Next, students identify the most important information about the *who* or *what*.

Finally, students compose a sentence stating the main idea in about 10 words.

- After reading (wrap-up: extending comprehension). Students each write three questions to extend comprehension. The first question is a *Right There* question, which is a question for which the answer can be identified in one location in the text. The next question is called *Think and Search*, and it requires students to locate information in various parts of a text to arrive at the answer. Finally, students create an *Author and You* question, a higher-level question such as making an inference or evaluation. The goal is for students to look back at their gist statements, think about the passage, and compose several sentences that summarize the passage (Ciullo & Reutebuch, 2014; Klingner et al., 2012).

Reciprocal teaching (Palinscar & Brown, 1984). Reciprocal teaching is a recommended strategy for teaching reading and writing at the secondary level (Slater & Horstman, 2002). Reciprocal teaching is a multicomponent strategy that supports students in engaging in dialogue centered on the relevant features of a text. Students, with support from a teacher, interact with and discuss the text. Students learn cognitive strategies to monitor their comprehension by developing awareness of their own thought processes during reading. As with all strategies, the strategy must be modeled, explicitly taught, and practiced before students can independently apply it.

After learning the strategy, students work in small groups, and each student is assigned a role—prediction expert, summarizer, question generation, and clarification—to foster the dialogue. One student serves as the teacher and leads a group discussion as the group members complete the following steps:

- Generate questions in order to ask thought-provoking questions about a short segment of the text.
- Clarify any misunderstandings or comprehension difficulties.
- Summarize or paraphrase the text segment.
- Make predictions about an upcoming section of the text.

Reciprocal teaching is a recommended strategy for teaching reading and writing at the secondary level (Slater & Horstman, 2002).

***Close reading*.** Although the construct of close reading is not empirically validated, the typical components of close reading are supported by research (e.g., re-reading, annotation, paraphrasing, making inferences). Close reading is emphasized in CCSS (National Governor's Association [NGA], 2010a, pp. 3, 10) and in the assessments being developed (Hinchman & Moore, 2013). Therefore, a discussion of what it is and how it should be applied seems appropriate.

Close reading is not a teaching technique but rather an outcome or a result when students engage in the practice of methodical interpretation of texts (Hinchman & Moore, 2013; Schoenbach et al., 2012; Shanahan, 2013). Hinchman and Moore (2013) summarized the strategies that have been recommended to closely read to learn from texts:

- Read and reread: Read for different purposes and at different rates.
- Annotate: Be an active reader—take notes and identify the most important information and sections of text.
- Summarize: Retell the passage.
- Self-explain: Figure out how ideas and information relate to one another (Hinchman & Moore, 2013, p. 444).

Close reading of complex text requires time and multiple readings of the text. Shanahan (2012) described why close reading of complex texts requires multiple readings. Students may read the first time to figure out what the text says and determine the plot of the story, for example, or the main idea and details of an expository piece. Students read the text a second time to focus on how the text worked. Students determine the literary devices the author used or the quality of the evidence. Word choice and use of language are discussed. Finally, readers think more deeply about the text to critically analyze it, relate their lives, and think about the author's deeper purpose.

The skills involved in close reading of a text are important for all students, including students with disabilities, to learn. It is important for students to learn how to approach difficult text without giving up, and it is important that the selected text is within their ability to understand, albeit with hard work. While teachers explicitly instruct students how to approach difficult text, they teach the skills of questioning, annotating, noticing important text features, paraphrasing, wondering about word choice, and rhetorical devices. To become adept at close reading, students with disabilities will likely benefit from more explicit instruction, more models, more time, and more practice.

One of the best ways to teach students the concept of close reading is through teacher modeling using think-aloud statements, making the teacher's processes visible to students (Oster, 2001; Schoenbach et al., 2012). The CEEDAR Center's Disciplinary Literacy Course Enhancement Module (CEM; http://ceedar.education.ufl.edu/wp-content/uploads/2013/11/CEEDAR-Disciplinary-Literacy-Speaker-Notes.pdf) contains lessons and videos of teachers modeling thinking aloud as they solve comprehension difficulties.

Modeling the metacognitive processes is not easy and requires teachers to practice, preferably while taping their attempts, and then reflect upon how clear they modeled.

In-depth discussion-oriented instruction. Effective discussions in conjunction with close reading of a text improve comprehension. Discussions should be sustained interactions and should involve interpretation and analysis of a text (Kamil et al., 2008). Finding empirical research that isolates discussions as a means to improve comprehension is difficult because discussions are usually combined with instruction and application of additional strategies. However, Applebee, Langer, Nystrand, and Gamoran (2003) documented that middle and high school classes with high-quality discussions about text made greater literacy gains than classes with few, if any, such discussions. Kucan and Palinscar (2013) provided detailed information about the rationale for and implementation of text-based classroom discussions.

Murphy, Soter, Hennessey, and Alexander (2009) completed a meta-analysis of research to examine the evidence of the effects of different approaches to conducting text-based group discussions as part of a larger project to identify evidence on the use of group discussions to increase students' text comprehension and learning and determine how teachers can best implement discussions. They analyzed nine approaches to text-based discussions, including Collaborative Reasoning, Paideia Seminar, Philosophy for Children, Junior Great Books Shared Inquiry, Questioning the Author, Book Club, Grand Conversations, and Literature Circles. The authors concluded that increases in student talk did not result in increases in student comprehension but that a particular kind of talk was necessary. Another interesting finding was that discussion approaches appeared to be more potent for students of below-average ability than for those of average or above-average ability. Finally, few approaches were effective at increasing literal and inferential comprehension and critical thinking and reasoning about text.

The authors concluded with a reminder that discussion is a means, not an end, to enhance comprehension.

Class discussions, when thoughtfully conducted, are an important tool to enhance reading comprehension, foster critical thinking, and prepare students for college and their careers. Discussions can take place in all content classes and are excellent vehicles to increase participation of students with disabilities. Zwiers and Crawford (2011) offered practical strategies and instructional techniques to involve students in meaningful discussions across subject areas.

Implementation of team-based learning (TBL) practices with adolescents who struggle with learning content material has yielded significant positive effects in content-area vocabulary and concept acquisition (Kent et al., 2015). TBL encourages students to engage in oral discourse with peers and work collaboratively to address problems with comprehension. Small teams of students discuss the content, think critically about it, and consider multiple perspectives. The team members are accountable to each other for learning the material (Michaelsen & Sweet, 2011). Although more research about this practice is needed, the results of recent studies are promising.

Tiers 2 and 3: Intervention Instruction

In Tier 2, either in a general education class or a class taught by a specialist, the previously described strategies can help students access and learn the curriculum. If possible, general education teachers and interventionists should plan together, using assessment data to inform their instruction (Torgesen & Miller, 2009). They should identify skills the interventionists could pre-teach so that the students with disabilities are more likely to succeed in

class. One example is to pre-teach the process to closely read a text and annotate it while reading so that students can apply skills in the content class.

As previously discussed in this IC, students who have significant needs in the area of reading comprehension are in a separate reading class, particularly in middle school. It becomes more difficult for students to schedule remedial reading classes while in high school, but it is no less urgent. It takes significantly longer to teach students who are several years below grade level in reading to read at grade level, and they must be taught the skills identified in this IC in a targeted, explicit, systematic fashion. Even with supplemental support, there may be some secondary students with severe reading disabilities who fail to respond to interventions and must learn compensatory techniques and rely more on technology.

Differentiating Instruction, Instructional and Assistive Technology, Digital and Web-Based Instruction, and Universal Design for Learning

Differentiating Instruction

Differentiating instruction refers to a systematic approach to planning curriculum and instruction for diverse learners. Planners must be cognizant of students' needs while maximizing their learning capacity (Tomlinson & Strickland, 2005). To maximize student success, teachers must adjust their content and instruction to meet the needs of all students. This is challenging to do well, especially for secondary teachers responsible for teaching many students each day. As teachers begin to consider differentiated instruction, it may be helpful to examine the following five classroom elements Tomlinson and Strickland (2005) identified. All five elements can be differentiated.

- Content: what we teach and how students access the information.
- Process: how students come to understand the knowledge essential to a topic.
- Products: how students demonstrate what they have come to know and do.

- Affect: how students link thought and feeling in the classroom.
- Learning environment: the way the classroom feels and functions (p. 6).

Deshler and colleagues (2007) considered differentiated instruction by examining the demands placed on students (i.e., what they must know in order to be successful) and planning strategy instruction to meet those demands (Deshler & Schumaker, 2006). The Strategic Intervention Model (SIM) includes explicit learning strategies for word identification; test taking; writing (e.g., sentences, paragraphs, essays); paraphrasing; vocabulary; and more. A related component is the Content Literacy Continuum (CLC), a school-wide approach for improving literacy for all students, features content enhancement routines that teachers use to design and deliver their instruction while integrating the learning strategies.

Instructional adaptations are also used for differentiation. Bryant and Bryant (2003) have established four categories of adaptations (i.e., instructional content, instructional activity, delivery of instruction, and instructional material). These integrate within an adaptations framework that helps teachers identify what adaptations may be needed. The framework includes the following steps: (a) determine setting specific demands, (b) identify student-specific characteristics, (c) propose appropriate adaptations, and (d) evaluate adaptations. Instructional adaptations are individualized for each struggling reader, are relevant to the desired instructional outcome, and are effective (i.e., they work; Bryant & Bryant, 2003). These descriptors are important for guiding teachers in planning to meet desired instructional outcomes rather than planning a series of activities that may or may not address the outcome.

Instructional and Assistive Technology

Instructional technology refers to the design and utilization of processes and resources for learning (Garrison & Anderson, 2003) while assistive technology (AT) includes assistive devices

for people with disabilities to promote greater independence. Both are important concepts. However, a discussion of how to select, locate, and use AT is beyond the purview of this IC. Rather, this section focuses on what teachers must know about the use of technology to increase reading achievement.

Digital and Web-Based Instruction

Use of digital texts, audio texts, and other multimodalities developed because of rapidly changing technology supports are becoming more prominent. Indeed, the use of digital texts are replacing traditional textbooks in schools. In addition to e-reading technologies, there are myriad other technological tools available for students and teachers. Teachers may want to consider using technological aids, such as recorded books, so that students can increase their content knowledge. An excellent source of online, free books is Bookshare (www.bookshare.org). Individuals or schools may register.

If students use technological tools (e.g., computer or video-based interventions, multimedia programs, technology-based assessment, verbatim audio recordings) to support their reading comprehension, they will need explicit instruction and feedback to successfully do so (Ebner & Ehri, 2013; Kennedy, Deshler, & Llyod, 2013; Marino, 2009). Programs that include hypertext and hypermedia software, videodisc instruction, and multimedia software are especially promising (Maccini, Gagnon, & Hughes, 2002). Students in states participating in the CCSS assessments must be proficient in using computers in order to negotiate the tests.

However, to date, there is limited evidence that technology improves educational outcomes (Biancarosa & Griffiths, 2012; Kennedy & Deshler, 2010; Okolo & Bouck, 2007), and most studies that do exist focus on elementary students. A recent search on What Works Clearinghouse (WWC; U.S. Department of Education, 2002) for studies on the effects of

e-reading technology on adolescent achievement in literacy found no accepted studies, although two interventions (i.e., Read 180 and SuccessMaker) revealed small positive effects on reading comprehension. Despite this lack of empirical research, creative uses of technology proliferate in classrooms today, some of which may support student learning and some of which may not.

Teachers must be thoughtful in how they plan to use technology with all students and especially with students with disabilities. To date, there is no computer program that can replace a well-trained teacher, so plugging students into computer programs to teach them to read is not the answer. However, utilizing technology to reinforce learning, provide additional practice opportunities, and motivate students may be appropriate. Kennedy and Deshler (2010) offered several recommendations for utilizing multimedia materials in literacy instruction: (a) select materials that extend existing pedagogy and explicitly help build the skills necessary for literacy; (b) limit extraneous processing and foster active, engaging learning; and (c) shape instruction to reflect the literacy demands of the subject so that it is relevant to the students.

There are also limited studies on the use of audio books with and without accompanying strategies or worksheets. The results are mixed, indicating that some students with mild disabilities can increase their content knowledge while listening to text while others need additional assistance (e.g., organizational worksheets, material modifications; Boyle et al., 2003). The field of education needs more well-designed studies evaluating the use of technology to support all learners, and researchers should conduct rigorous studies to guide the use of technology to increase student achievement.

Universal Design for Learning

The use of the Universal Design for Learning (UDL) framework for planning, teaching, and assessing students provides guidance in how to make learning accessible for all students.

See *Universal Design for Learning Innovation Configuration: Recommendations for Teacher Preparation and Professional Development* (Israel, Ribuffo, & Smith, 2014). Often, but not always, UDL utilizes some form of technology (King-Sears, 2014). UDL is endorsed within the Individuals with Disabilities Education Act (IDEA, 2004) that instruct teachers, to the extent possible, to use UDL principles in developing and administering any assessments (Section 300.160) and maximize the use of technology to provide access to the general curriculum (Section 300.704). Also, the blueprint for reauthorization of the Elementary and Secondary Education Act (No Child Left Behind Act [NCLB], 2008) specifically mentions UDL and technology for students with disabilities. Of particular interest to teacher educators is the fact that the Higher Education Opportunity Act (HEOA, 2008) defines UDL and provides guidelines for its use in teacher preparation (Kennedy, Thomas, Meyer, Alves, & Lloyd, 2014). However, to date, there is little applied research supporting UDL's efficacy and use with diverse populations (King-Sears, 2014). Studies published in the May 2014 *Learning Disability Quarterly* dedicated to the use of the UDL framework with students with disabilities have mixed results. A study using Content Acquisition Podcasts (CAPs) yielded positive achievement results (Kennedy et al., 2014) while a study of video games and alternative text in middle school science classes did not (Marino et al., 2014). Clearly, more research is needed to substantiate the use of UDL interventions with students with learning disabilities. Resources that provide more information about these topics are as follows:

- ALTEC (Innovative Technologies to Improve Teaching and Learning), Center for Research on Learning, University of Kansas (http://altec.org).
- National Center on Universal Design for Learning (http://www.udlcenter.org).

- Literacy Beat (http://literacybeat.com), an edible created by Grisham, Castek, Dwyer, Dalton, and Wolsey (2011-2014), is used to share ideas, tools, resources, and strategies for integrating technology, media, and Web 2.0 into teaching and learning.

Biancarosa and Griffiths (2012) summarized the ongoing challenge of educators attempting to utilize ever-changing technologies to support learning.

> The good news is that e-reading technology offers many tools for mitigating both old and new literacy challenges. But e-reading technology tools are just that—tools. To be effective, they must be wielded with care and precision. Not every nail requires a nail gun; sometimes a hammer will do. Similarly, not every literacy problem requires e-reading technology to solve it. Although e-reading technology can be used to deliver rich and meaningful content, it may not support learning unless thoughtful human beings are guiding its use. (p. 154)

Disciplinary Literacy

Disciplinary literacy refers to the specifics of reading, writing, and communicating in a discipline. It focuses on the ways of thinking, the skills, and the tools that are used by experts in the disciplines (Shanahan & Shanahan, 2012). Each discipline has a specialized vocabulary and components that are unique to that discipline. Secondary students must be taught what is unique about each discipline and the "nuanced differences in producing knowledge via written language across multiple disciplines" (Moje, 2007, p. 9). Moje (2007) characterized disciplinary literacy as a form of social justice, enabling students to not only understand the accumulated knowledge in a discipline, but also to critique its production. Only when students can participate in producing as well as critiquing knowledge in a discipline are they considered literate in that discipline.

It is important to note that strategies for reading in the disciplines should not be substituted for specific, explicit instruction in the foundational skills that many struggling adolescent readers require (Faggella-Luby et al., 2012). Both general literacy instruction and disciplinary literacy instruction should be incorporated into programs for struggling adolescent students.

Disciplinary literacy involves understanding the language, style, and meaning behind how the text is written. Some students find it difficult to read and think in the different disciplines, and they must be explicitly taught the language and patterns utilized by the various subject matters. Students with disabilities require knowledge of how to be literate in various disciplines, and they also typically need more modeling and more opportunities for scaffolded practice in order to become competent in negotiating complex texts. The ability to read in the disciplines is necessary to be successful in college and a career.

The most relevant skills needed to read in the major disciplines are outlined below. Other content areas not discussed in this IC, such as music, art, and physical education, also have language and characteristics unique to their disciplines.

Disciplinary Literacy: English/Language Arts

CCSS articulate the literacy skills students are expected to master, including

- comprehending key ideas and details;
- using evidence from the text while writing or speaking;
- synthesizing and summarizing key ideas or themes;
- analyzing the development of characters, storylines, and ideas across text and the text's structure;

- understanding the words used in a text and how the author's word choice impacts the text's tone; and
- articulating the argument and claims in a text and evaluating them (NGA, 2010).

Thus, there is an increased emphasis in the standards to have students analyze arguments and use examples from the text to support their arguments. This is a much more sophisticated approach to critiquing and comparing informational texts.

In addition, secondary students must learn skills specific to English/language arts. The expectation that students complete close readings of literary and informational complex text include

- independently performing critical thinking tasks in relation to both informational and literary texts;
- performing close readings of complex texts, including inferencing, reading critically, and distinguishing between what is in the text (e.g., plot, characterization, setting) and the larger picture (e.g., theme, connection to society); and
- developing reading endurance (i.e., the ability to independently read lengthy complex texts; Rush, 2014).

These expectations are challenging for all students and demand a level of critical thinking that we have not emphasized with students with disabilities in the past.

Disciplinary Literacy: Social Studies/History

Disciplinary historical reading trains students to weigh and evaluate competing truth claims, consider the author's motive and purpose, and draw inferences about the broader social and political context (Reisman & Fogo, 2014). Historians critically approach historical documents, evaluating whether and how they can be used as evidence of what happened in the

past. Students use four key strategies as they read: (a) sourcing, (b) corroboration, (c) close reading, and (d) contextualization (Wineburg, 1991, 2001).

- Sourcing: Historians evaluate the reliability and credibility of historical evidence by identifying and analyzing the author's perspective, motive, and biases.
- Corroboration: Historians compare and contrast perspectives, arguments, and evidence across multiple historical sources and accounts.
- Close Reading: Historians carefully and closely read to identify an author's claims and evaluate the author's use of evidence and rhetorical devices.
- Contextualization: Historians analyze the influence of larger social, political, economic, cultural, and environmental forces or events on the creation of a historical document (Reisman & Fogo, 2014).

A useful source of lesson plans is the project *Reading Like a Historian*, an award-winning U.S. history curriculum by Stanford History Education Group (sheg.stanford.edu). Lesson plans, videos, presentations, and other resources are available to help teachers explicitly teach students how read, write, and think like a historian. Professionals at the University of Kansas Center for Research in Learning developed tools and strategies to address the needs of students with disabilities in social studies and history classes. The tools include graphic organizers such as a Question Exploration Guide and a concept Comparison Table (Bulgren, Graner, & Deshler, 2013). An emerging line of research focuses on TBL as a strategy to improve content knowledge and reading comprehension of students with disabilities in general education social studies classes (Kent et al., 2015; Swanson et al., 2015).

Disciplinary Literacy: Science

Science texts contain a large number of technical vocabulary terms and may not be written in a student-friendly format. The combination of graphic and text information may be confusing for students, and students typically have limited background knowledge and often have misconceptions about scientific topics (Dexter, Park, & Hughes, 2011; Perin, 2014). Students must learn to carefully read technical scientific texts, attending to small and large details and paying attention to text structure in both reading and writing. Skills students must read as a scientist include knowledge of the vocabulary, determining relationships among concepts, and how to interpret the data that are often presented in graphs, charts, and formulas. Science teachers will enhance the achievement of their students by integrating literacy skills in the service of learning science (Pearson, 2010).

Disciplinary Literacy: Mathematics

Reading mathematics plays an essential role in learning mathematics (L. Edwards, 2002). Indeed, the standards of the National Council of Teachers of Mathematics (NCTM) refers to mathematics as a language and a form of communication (NCTM, 2014). Students must be able to read the language of mathematics (Barton & Heidema, 2002) as well as produce such texts themselves (Lee & Spratley, 2010). To read like a mathematician is to be a strategic reader. To think like a mathematician is to interact with each problem encountered, question, check, seek understanding, ask why and why not, and so forth (Bryant & Bryant, 2014). Thus, good readers of mathematics interact with the text, making predictions, checking accuracy, generating questions, with the printed word as well as with myriad symbols. Students must learn the Greek symbols and the specific terminology of the language (i.e., think how the meaning of the word *mean* differs when used in the context of a story and a mathematical word problem) and must

learn how to align the representations of mathematics theorems, for example, with the text describing them.

Tiers 2 and 3: Reading Comprehension Intervention Instruction

Students who struggle with reading comprehension usually struggle with other areas of reading such as a lack of knowledge about the basic language structures of English; poor word recognition skills; lack of background knowledge and vocabulary, particularly in the content area; and poor fluency. Therefore, it behooves the intervention teacher to assess students and determine their areas that need targeted support.

While planning intensive instruction, Ciullo and Reutebuch (2014) suggested using the assessment information to answer the following questions:

- What do these students need?
- What must I do differently for these students or this student?
- Upon what strengths can I build?
- How should I group students?
- Am I moving too fast and for which students?
- Am I moving too slowly and for which students?
- Where did learning break down?

Assessment data should be used to confirm whether reading comprehension has taken place, but more important, to inform planning and provide additional learning opportunities for students to improve their reading comprehension skills. An analysis of what was taught and to what extent students mastered the learning objectives may indicate whether it is necessary to

- designate time to pre-teach, provide more guided practice, or reteach;

- schedule more instructional time for certain topics for struggling readers who need more practice and feedback;
- build or strengthen foundational skills for students who are deficient (i.e., listening comprehension, fluency, word learning strategies, or vocabulary); and
- group or regroup students to target specific skills (e.g., making inferences, identifying main idea, summarizing, questioning); and
- implement more modeling and guided practice for students who do not demonstrate knowledge of or sufficient use of strategies (Ciullo & Reutebuch, 2014).

Teachers must search for a program that can solve their students' difficulties and that is manageable to implement. No program exists that will meet the need of all students. However, it appears that both individualized instructional approaches (e.g., instruction designed to meet students' needs with weekly assessments) and instruction utilizing research-based standardized protocol interventions can be effective, although more research is needed before definitive conclusions can be made (Vaughn, Wexler, et al., 2011). Therefore, it is recommended that teachers follow the principles of effective instruction (i.e., systematic instruction with scaffolding, explicit instruction with modeling, immediate and specific feedback, multiple opportunities to practice, and frequent progress monitoring) and engage students in setting goals and learning objectives.

In addition to explicitly and systematically teaching the comprehension strategies discussed in the previous section, intervention teachers may want to consider using technological aids, such as recorded books, so that students can increase their content knowledge. Refer to the section on technology for specific recommendations.

Conclusion

Improving the reading skills of adolescents with reading disabilities is difficult for a myriad reasons. Stakeholders must examine current structures to ensure that students are provided with sufficient opportunities to learn, and teachers and leaders are provided sufficient support and knowledge to address the needs of the most challenging students. Secondary struggling readers can make incremental improvements. As Wanzek and colleagues (2013) noted,

> The overall small effects noted on standardized measures in high-quality studies illustrate that adolescence is not too late to intervene in reading and that student achievement in comprehension, word recognition, fluency, word reading fluency, and spelling can be improved in small amounts through extensive interventions. (p. 191)

The adolescents in our schools deserve improved instruction so that they are able to meet the rigorous challenges posed by new standards, higher education, and careers. It behooves us as a democracy, an economic system, and individuals to ensure that all students, including those with disabilities, are provided instruction that meets their needs, is delivered by trained teachers, and is supported by knowledgeable leaders.

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Appendix

Innovation Configuration for Evidence-Based Reading Instruction for Adolescents, Grades 6-12

Essential Components	Implementation Levels				
Instructions: Place an X under the appropriate variation implementation score for each course syllabus that meets the criteria level from 0 to 3. Score and rate each item separately.	**Level 0**	**Level 1**	**Level 2**	**Level 3**	**Rating**
	There is no evidence that the component is included in the syllabus, or the syllabus only mentions the component.	Must contain at least one of the following: reading, test, lecture/presentation, discussion, modeling/ demonstration, or quiz.	Must contain at least one item from Level 1, plus at least one of the following: observation, project/activity, case study, or lesson plan study.	Must contain at least one item from Level 1 as well as at least one item from Level 2, plus at least one of the following: tutoring, small group student teaching, or whole group internship.	Rate each item as the number of the highest variation receiving an X under it.
1.0 Word Recognition and Word Study					
1.1 - Explicit and direct teaching of decoding skills. 1.2 - Methods of decoding (e.g., phonics, word study). 1.3 - Six syllable types and syllable division patterns to assist in decoding and encoding multisyllabic words. 1.4 - Common orthographic rules and patterns. 1.5 - Morphemic analysis. 1.6 - Etymology of English words.					

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2.0 Fluency (Role, Instruction, and Assessment)					
2.1 - Role of fluency in word recognition, reading comprehension, and motivation. 2.2 - Role of fluency in reading difficulties. 2.3 - Instructional activities to increase accuracy, automaticity, and prosody. 2.4 - Selection of texts. 2.5 - Use of assistive technology (AT). 2.6 - Use of screening and progress monitoring measurements.					

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3.0 Vocabulary (Role and Instruction)					
3.1 - Role of vocabulary in comprehension (i.e., readers must know the meaning of most of the words in text to understand the text context and graphic organizers). 3.2 - Evidence-based methods of teaching word meanings. 3.3 - Evidence-based methods of teaching word-learning strategies. 3.4 - Additive, generative, and academic vocabulary. 3.5 - Principles of vocabulary instruction (e.g., multiple exposures with deep understanding connected to what students know). 3.6 - Considerations for selection words to teach (e.g., utility, connections to known, “tiers”).					

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3.0 Vocabulary (Role and Instruction)					
3.7 - Use of morphology and etymology in vocabulary instruction. 3.8 - Instructional strategies, including morphological analysis, context, and graphic organizers. 3.9 - Developing word consciousness.					

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4.0 Comprehension (Instruction and Strategies)					
4.1 - Direct and explicit instruction. 4.2 - Strategies good readers use before, during, and after reading (e.g., set purpose, activate prior knowledge, make predictions; generate questions, determine main ideas, make inferences, paraphrase, use fix-ups to solve comprehension problems, summarize). 4.3 - Self-regulation and metacognitive skills; active participation. 4.4 - Multicomponent strategies (i.e., Collaborative Strategic Reading (CSR) and reciprocal teaching). 4.5 - In-depth, discussion-oriented instruction. 4.6 - Use of digital literacy.					

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4.0 Comprehension (Instruction and Strategies)					
4.7 - Modeling of strategies (e.g., think-alouds). 4.8 - Close and critical reading of complex text.					

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5.0 Content Area Literacy and Disciplinary Literacy					
English/Language Arts 5.1 - Author's purpose, point of view, and theme. 5.2 - Literal and implied meaning of text. **Social Studies/History** 5.3 - Sourcing of primary documents. 5.4 - Contextualization. 5.5 - Summarization. 5.6 - Corroboration. **Science** 5.7 - Scientific meaning of vocabulary. 5.8 - Relationships among concepts.					

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5.0 Content Area Literacy and Disciplinary Literacy					
5.9 - Interpretation of graphs, charts, and formulas. **Mathematics** 5.10 - Vocabulary of mathematics, Greek symbols. 5.11 - Mathematical communication. 5.12 - Alignment of mathematical representations with text explanations.					

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6.0 Intervention and Assessment					
6.1 - Components of intensive instruction. 6.2 - Explicit strategy instruction. 6.3 - Intervention selection and implementation. 6.4 - Generalization of strategy use. 6.5 - Fidelity of implementation. 6.6 - Use of assessments. 6.7 - Purposes of assessment: screening, diagnosis, progress monitoring, and outcome measurement. 6.8 - Using data for planning or modifying instruction and identifying students who require additional support.					