article

Keeping the Big Picture in Mind: Using a Reading Conceptual Framework to Guide Teacher Learning

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ABSTRACT
Despite what we know about the pitfalls of narrow, one-shot inservice activities, we find more and more evidence that much professional development in reading continues to be splintered and, therefore, ineffective. Sustained improvements in instructional practices begin with high quality professional development that helps teachers see the connections between research and practice. This can be accomplished by helping teachers within a school develop shared understandings about reading and a common vocabulary for discussing reading instruction and intervention. This paper presents a conceptual framework for guiding teachers' thinking about how various aspects of reading are connected and how comprehension is dependent on multiple critical influences. Throughout the implementation of the Florida Reading Initiative, a sustained approach to school-wide reading professional development, teachers, reading coaches, and administrators have viewed the conceptual framework as critical to their understanding of the content of the professional development. The framework has since been successfully employed in preservice teacher preparation, as well. The framework can be used to guide teachers' thinking and learning and to provide a shared language for communicating about their practices.

National efforts to improve reading instruction and reading achievement have led to extensive professional development efforts to promote teacher use of evidence-based instructional strategies. Through our work with one such PD effort, the Florida Reading Initiative (FRI), we discovered the power and utility of a simple yet coherent reading conceptual framework for organizing sustained professional development activities, supporting school-wide improvement, and informing program planning and effective classroom instruction. This paper provides a description of the conceptual framework and how it has been used in PD and in preservice teacher education.

The Florida Reading Initiative

In 2001, the Northeast Florida Educational Consortium (NEFEC) embarked on the Florida Reading Initiative to assist districts as they led school-wide efforts to improve K-12 reading achievement. Building on work of the Alabama Reading Initiative (RMC, 2007) and its leader, Katherine Mitchell, NEFEC implemented comprehensive and sustained PD for teachers and administrators, and assisted with school-based instructional planning, efforts to diagnose reading difficulties, and analysis of achievement data to inform instruction. We served on the steering committee for the FRI and developed the conceptual framework that guided the PD effort.

Since the inception of the FRI, nearly 7,000 teachers, coaches, and administrators from 74 schools in 14 northeast Florida school districts have engaged in this comprehensive and systematic effort to increase teacher knowledge, enhance teacher practice, and improve student outcomes. In an external evaluation, 96% of elementary teachers and 93% of the secondary teachers who attended the FRI Summer Reading Academy found it helpful (Roehrig, Turner, & Petscher, 2009). The Summer Reading Academy for teachers is coupled with school-wide planning sessions and specialized training for coaches and principals, along with several levels of follow-up professional development activities. These efforts have resulted in improvements in student reading performance in participating schools, as well. State reading test results in comparison schools indicate differences in reading growth favoring FRI elementary schools for various cohorts. Statistically significant differences in reading achievement were difficult to identify given the variation among such large numbers of teachers implementing strategies consistently and with fidelity. Results from the external evaluation of FRI found that surveys, interviews, and classroom observations revealed that "FRI implementation was better when a whole school trained

together and worked together throughout the year on the strategies, sharing a common language and goal" (Roehrig et al., 2009, p. 93). FRI training, the external evaluators concluded, "requires school-wide implementation for success...embedded in a school culture of improving higher level literacy skills and scores" (Roehrig et al, 2009, p. 94).

When a school begins its involvement in FRI, teachers and administrators attend the two-week Summer Reading Academy. A key component of the Reading Academy is PD related to key components of reading instruction, with teachers of the same grade levels in different schools working together to learn new practices. During the sessions related to each component, participants are directed back to the conceptual framework to help them understand how what they are learning fits in the "big picture" of reading. Also during the Reading Academy, schools are guided in bringing the knowledge from the grade-specific PD activities together into a comprehensive school-wide model of instruction. In addition to attending the PD sessions to develop pedagogical content knowledge, school administrators and reading coaches attend sessions to learn effective ways to provide ongoing support for teachers as they implement the newly learned practices. Additional sessions across the school year and during subsequent summers provide all teachers with more opportunities to deepen and expand their knowledge and enhance their practice. Our conceptual framework has guided all these activities. Given its success in promoting understanding during professional development for practicing teachers, the FRI Conceptual Framework was incorporated into the reading coursework in the preservice teacher education program at the University of Florida.

Rationale for Employing a Conceptual Framework

Professional development efforts often serve teachers with a wide range of knowledge and experience, from novice teachers to out-of-field teachers to teachers with many years od experience in reading instruction. It is important, therefore, that we begin any PD initiative by developing some common understandings about reading. These common understandings help us communicate more fruitfully in discussions and ensure that everyone is able to attain the intended knowledge and skills.

Reading has always been a contentious field of study, driven and divided by ideological debates. There have even been periods that were characterized as "reading wars" during which researchers and practitioners argued mightily about which theory or instructional method was best. If anything has emerged from this contentious history, it is that it is clear there exists no single approach that will work effectively with every child learning to read. Children differ, their learning needs differ, and so should their instruction. Determining what individual children need to succeed in reading is perhaps the greatest challenge to all teachers.

The central objective of any comprehensive reading PD initiative is to help participants fully understand the reading process and how to identify elements of that process that may pose difficulties for developing or struggling readers. To accomplish this, we must first examine the process and understand its components. Only then can we understand what might interfere with the development of that process and, ultimately, what can be done to address any interference. The FRI conceptual framework is intended to serve as an anchor for teachers to understand how the many complex elements of reading work together to support the central goal of reading comprehension. PD activities that might otherwise seem isolated are instead, with the use of the conceptual framework, purposefully integrated. Though the framework was never intended to be all-inclusive or exhaustive, the model illustrates the complexities of reading and helps teachers understand how the many concepts they are learning connect. The framework provides a common vocabulary and promotes common understandings of the reading process to share and build upon school-wide.

Within preservice teacher education, a common complaint has been the lack of coherence of many programs (Gore, 2001). In our efforts to prepare teachers with expertise in reading instruction and intervention, we have incorporated the FRI framework in our preservice teacher education coursework. As teacher candidates are initially exposed to each of the various aspects of reading, they learn how that aspect fits into the conceptual framework. Each competency, each class activity, and each field experience can be linked to the framework, which promotes program coherence and helps our students develop confidence in their knowledge and skills.

The FRI Conceptual Framework

The FRI framework simplifies the reading process as it is portrayed as the orchestration of a vast array of knowledge and skills that lead to a single, central purpose: to comprehend text. No matter their theoretical orientation, most researchers can agree that the purpose of reading is to comprehend text. The next logical question is, then, what influences text comprehension?

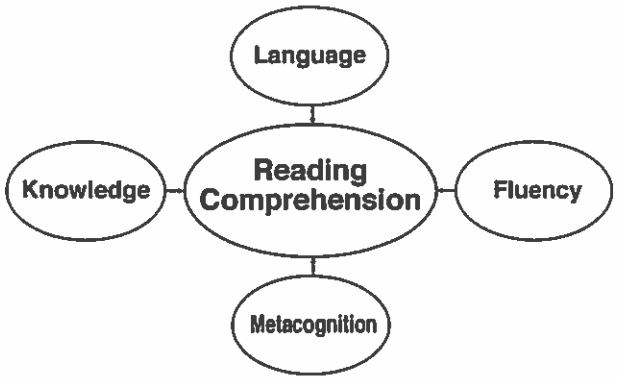
The most important aspect of the FRI conceptual framework is that it emphasizes comprehension as the aspect of reading that all other elements serve. Without this focus on comprehension, reading instruction can too easily stray from its purpose. Another critical aspect of the framework is that, although the emphasis in instruction may shift to address to the needs of students or the demands of the text, all of the elements are always present and always important to comprehension.

Understanding of this conceptual framework also aids understanding of reading difficulties. If a teacher recognizes that all the elements in the framework are necessary for proficient reading and understands how the elements are related, it makes pinpointing the source of reading difficulties feasible, which in turn, allows for effective intervention planning and implementation. The framework is meant to illustrate four critical influences on text comprehension: Language, Fluency, Knowledge, and Metacognition.

Language

Text is the written form of spoken language. To understand text, one must understand language. Understanding language is not as simple as understanding individual words or being able to string words together to

Figure 1. Four critical influences on reading comprehension.



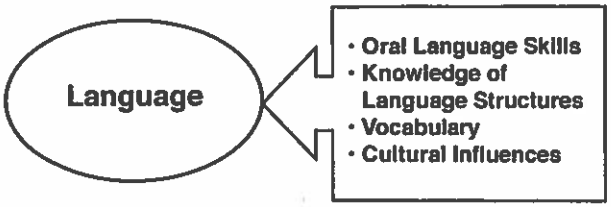
form sentences. Language is far more complex than that, and text uses language in all its complexity (Dickinson, Golinkoff, & Hirsh-Pasek, 2010; Muter, Hulme, Snowling, & Stevenson, 2004).

Text is the written form of spoken language. To understand text, one must understand language.

Through exposure to interaction with more mature users of the language, including parents, other adults, older siblings, and even media influences, children develop *oral language skills* (Dickinson et al., 2010). First, they develop the capacity to utter speech sounds and, eventually, to form those sounds into intelligible words. They connect meanings to those words and learn how to generate meaningful combinations of words. The ability to speak and understand spoken language well leads to the ability to understand written language (Hogan, Cain, & Bridges, 2013).

As their *knowledge of language structures grows*, children begin to use syntax appropriately and understand more about the pragmatics of language (Arya, Hiebert, & Pearson, 2011; Fromkin, Rodman, & Hyams, 2013; Scarborough, 2001). Reading books aloud to children exposes them to language structures that are different from what they might encounter in daily conversation and provides language that is decontextualized from the child's own life, forcing them to think about words and language separate from their own needs and activities. Children who have been read to frequently tend to be able to understand text better when they begin to read on their own (Bus, van IJzendoorn, & Pellegrini, 1995; Mol, & Bus, 2011).

Figure 2. Components of language that influence reading comprehension.



Through interactions and experiences, children are exposed to many new words, and their vocabulary grows. The amount of interaction and the variety of experiences has been demonstrated to have a profound effect on the size of a child's vocabulary (Hart & Risley, 2003; Rodriguez, & Tamis-LeMonda, 2011; Rowe, 2012). Vocabulary growth is exponential, so the more words a child knows, the easier it is for him to acquire new words. Because of the exponential nature of vocabulary growth, longitudinal research has shown vocabulary knowledge at kindergarten entry to be an excellent predictor of reading comprehension throughout school (Snow, 2002; Verhoeven, & Van Leeuwe, 2008).

Children's language development is also influenced by the culture in which they grow up, and there is significant variation among cultures in activities relevant to language (Ochs, & Schieffelin, 2014). A variety of cultural influences may dictate the types of interactions children have with adults, the types of words children hear, and the types of experiences they have. A child whose family visits museums frequently will be more likely to understand words that relate to history and different cultures. In contrast, a child whose family does not celebrate holidays may not be familiar with words that are often associated with holidays. Thus, cultural influences may expand or limit exposure to particular types of words and, ultimately, the comprehension of text (Kintsch, & Greene, 1978).

Knowledge

One way to think about text comprehension is the process of linking the author's ideas to things we already understand—integrating new knowledge with existing knowledge to construct a mental representation of what the text means (Kintsch, 1998, 2004). We also need to make inferences, or fill in the holes the author leaves to make sense of text (McNamara, & Kendeou, 2011). Without pre-existing knowledge about the topic of a passage, comprehension may be difficult or impossible. With substantial knowledge, comprehension is enhanced.

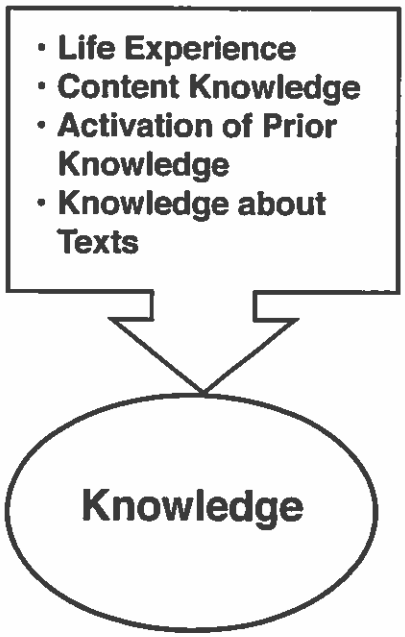
> We bring knowledge to the comprehension process, and that knowledge shapes our comprehension. When we comprehend, we gain new information that changes our knowledge, which is then available for later comprehension. So, in that positive, virtuous cycle, knowledge begets comprehension, which begets knowledge, and so on (Duke, Pearson, Strachan, & Billman, 2011, p. 53).

Perhaps the most common venue for developing knowledge is our *life experiences*. When we read about a thunderstorm, we can understand the text better if we have personally experienced a thunderstorm and even better if we have experienced many thunderstorms. Some children come to school with abundant life experiences, while others have had very limited experiences and, therefore, have a limited fund of knowledge to draw upon while reading. Such variations in experience and the resulting variations in knowledge contribute to differences in the ability to form coherent and high-quality representations of text (Compton, Miller, Gilbert, & Steacy, 2013).

As we read non-fiction text, we also use the content knowledge we have developed from previous interaction with the topic (Compton et al., 2013; Ozuru, Dempsey, McNamara, 2009; Willingham, 2006). Having background knowledge about specific content allows the reader to interpret the author's words with more accuracy. Although there has been some push in recent years to de-emphasize use of prior knowledge in an effort to promote reliance on close reading of the text, there is no empirical support for this approach. Snow (2013) refers to this "cold close reading," or reading a text without the benefit of any orientation to or generation of enthusiasm for the topic. Snow explains that, with insufficient background knowledge, meaning can be elusive, and the reading experience can be discouraging, unproductive, and frustrating.

Unfortunately, it isn't enough to have prior knowledge; it's essential that we *activate prior knowledge* (Elbro, & Buch-Iversen, 2013; Kendeou & van den Broek, 2007). In Bransford and Johnson's (1972) classic study, participants read a vague passage about a generic-sounding procedure either with or without knowing the topic (i.e., washing clothes). Although all participants had prior knowledge of the procedures for washing clothes, only those who were told the topic of the passage were able to understand it fully. It is also essential that we activate the appropriate background knowledge to match the demands of the text. Reading that a character won a big race could be understood very differently based on whether the reader had activated prior knowledge related to marathons, auto racing, or elections. Helping students activate their prior knowledge can enhance their comprehension of text. Before reading a passage about marine life, for example, it helps if the teacher first leads students in a discussion about their recent visit to the aquarium exhibit.

Figure 3. Components of knowledge that influence reading comprehension.



Still another type of knowledge that is essential to reading comprehension is *knowledge about texts and text structures* (Kendeou & van den Broek, 2007; Ozuru et al., 2009; Ray, & Meyer, 2011). Knowing about the different forms of text and the ways a skilled reader approaches each form can have a profound influence on reading comprehension. Mature readers understand that narratives are read differently from informational text and that different forms of informational text should be approached in different ways. If readers are familiar with a text's structure, what they need from the text becomes more accessible.

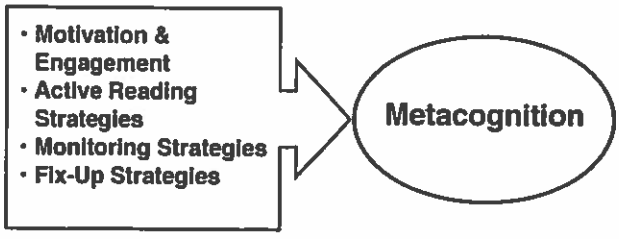
Metacognition

Metacognition generally refers to thinking about thinking (Flavell, 1976). Metacognition includes various aspects of thinking, including the capacity to notice and evaluate one's own thought processes. Monitoring understanding, monitoring memory, self-regulation, and developing and maintaining mental purposes for actions are all aspects of metacognition.

Among the keys to understanding text are our *motivation and engagement* (Guthrie, Hoa, Wigfield, Tonks, Humenick, & Littles, 2007; Guthrie, Taboada, & Coddington, 2007). Our purposes for reading a particular text serve to motivate us to a particular degree to understand it. Our interest in or engagement with the topic can help us persevere, even through difficult sections. Motivation and engagement are often thought of together, but one may be motivated without being engaged (e.g., the need to read a boring manual for an electronic device) or engaged without being motivated (e.g., the desire to find out what happens next to Harry Potter but a lack of drive to read a lengthy book).

Another key to understanding text is the use of *active reading strategies* (McNamara, 2009). Good readers actively notice features of the text that will help them be successful with it. They use these features to their advantage before, during, and after reading. A student reading a textbook benefits from noticing the headings, boldface type, diagrams, pictures and captions, and other features that a poor reader may overlook. Before reading, a skilled reader would scan and notice these things, during reading, the same reader would use them to know what should get attention, and after reading, those features would help the reader look back to find the answers to questions. While reading, a skilled reader is also likely to make active connections between the text and prior knowledge (Learned, Stockdill, & Moje, 2011).

Figure 4. Components of metacognition that influence reading comprehension.



Good readers also are proficient in using *monitoring strategies* (Palincsar, 2012; Roberts, Torgesen, Boardman, & Scammacca, 2008). When skilled readers experience lapses in understanding, they generally recognize immediately when their comprehension fell apart. They become aware that they aren't getting whatever message the author intended. This awareness and self-monitoring is often lacking in struggling readers (Perfetti, & Adlof, 2012).

Once an error is detected through monitoring or self-regulation strategies, the good reader employs *fix-up strategies* (Mason, Davison, Hammer, Miller, & Glutting, 2013; Roberts et al., 2008) to solve the problem. Fix-up or repair strategies may include such actions as cross-checking between decoding and meaning or stopping to reread a challenging section or confusing word, using pictures to support understanding or looking up information in another source. Stronger readers tend to use such strategies more effectively than poor readers (Connor, Radach, Vorstius, Day, McLean, & Morrison, 2014).

Fluency

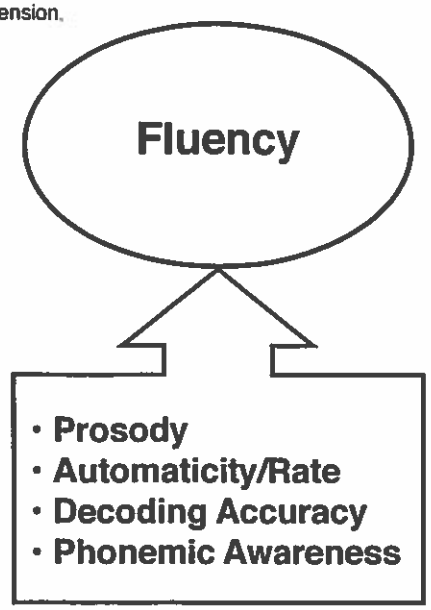
One of the greatest influences on our understanding of text is how effortlessly we move through the words on the page. Reading fluency—which includes accuracy, automaticity, and prosody, along with the foundational skills that contribute to word reading—accounts for an enormous portion of the variation in reading comprehension, especially among younger readers (Hudson, Pullen, Lane, & Torgesen, 2009).

A reader whose oral reading sounds like natural conversation is said to be reading with prosody. Prosody includes appropriate phrasing, use of pauses, word and sentence boundaries and expressiveness and it is a strong predictor of comprehension (Veenendaal, Groen, & Verhoeven, 2014). When reading is monotone, or when a reader neglects to pause at appropriate punctuation marks, between a subject and predicate, or around prepositional phrases, meaning is often lost. To be a prosodic reader, one must be able to read the words on the page accurately and automatically.

Proficient reading includes *automaticity* at the level of the individual word and at the level of connected text (Berninger et al., 2010; Samuels, 1976). Although decoding is an important skill, being able to decode words is not enough. It is essential for decoding to develop to the point of automaticity—word level automaticity. If each word in text must be laboriously decoded, even if the reader eventually gets them all right, comprehension will suffer. In addition to being able to recognize words quickly, a proficient reader can string those words together into coherent sentences—text level automaticity. The rate with which one is able to read text is a strong predictor of comprehension (Roehrig, Petscher, Nettles, Hudson, & Torgesen, 2008).

To understand the author's message, it is important to have access to the author's words. *Accuracy* in decoding allows the reader to know that they are getting the words, and ultimately the ideas, the author intended to convey. Readers whose decoding skills are not well developed have little chance of understanding the author's ideas (García, & Cain, 2014; Gough, & Tunmer, 1986), because the words they are reading are often quite different from the words

Figure 5. Components of fluency that influence reading comprehension.



the author wrote, and sometimes, they are not words at all.

To become a fluent reader, one must be able to decode words, but before skilled decoding develops, one must have at least some level of phonemic awareness (National Early Literacy Panel, 2008). Phonological awareness is the conscious awareness of the sound structure of language, and phonemes are the smallest units of sound in spoken language (Lane & Pullen, 2004). Phonemic awareness is the most sophisticated level of phonological awareness. A well-developed capacity to segment and blend the phonemes in a word is highly predictive of skilled decoding (Wagner, & Torgesen, 1987). That is, being aware of the sounds in language and being able to manipulate those sounds is necessary before one can connect sounds and letters to read words.

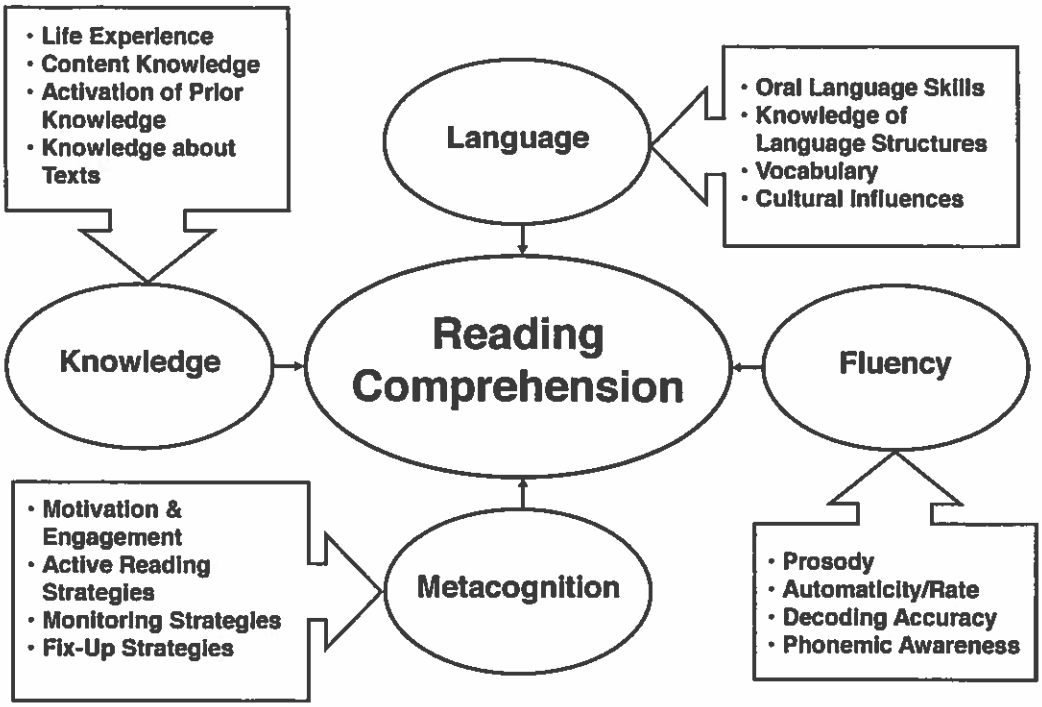
The Big Picture

Understanding how the reading process works is essential to understanding reading difficulties. The FRI Conceptual Framework is one way of thinking about the reading process and, in particular, the influences on reading comprehension. The framework helps teachers to understand why they are doing what they are doing, and it also helps them pinpoint areas of difficulty for struggling readers. It helps teachers understand that comprehension difficulties can arise from a variety of problems, and the solution is not always more comprehension strategy instruction. This framework is by no means exhaustive, and there are numerous factors that are not considered in its design (e.g., the role of working memory, issues of text complexity). However, it provides a helpful framework for common understanding that allows for effective, coherent school-wide PD about reading.

Conclusion

The FRI Conceptual Framework has withstood the test of time. More than a decade after its initial use, the same conceptual framework continues to inform our focus

Figure 6. The Florida Reading Initiative conceptual framework.



and strategies for professional development, curriculum planning, and diagnosing students' reading difficulties. The conceptual framework provides a common reference point for understanding the reading process and how interdependent factors can differentially influence reading comprehension. Many efforts to deepen teachers' knowledge of reading processes and skills have focused on individual components (i.e., phonemic awareness, phonics, fluency, vocabulary, comprehension) however, such an approach does not necessarily help teachers and educational leaders understand how these elements come together for an individual reader with a particular piece of text. The following comment from one teacher, after her initial exposure to the conceptual framework, illustrates its power to transform teacher thinking:

> I've learned a lot about the various components of effective reading instruction, but the components have always been presented separately. There's phonemic awareness, phonics, fluency, vocabulary, and comprehension. For the first time, I truly understand that these are not separate ideas. They are connected in really important ways, and the most important thing is that all the components are there to influence comprehension. I've never thought about them that way. Thinking about how I am influencing comprehension will make my phonemic awareness instruction and my fluency practice look much different. Now I know that I'm not teaching phonics for the sake of teaching phonics. I'm teaching phonics so my students will be able to comprehend text. If the way I'm teaching phonics doesn't make it easier for my kids to comprehend text, why do it? If any part of my reading instruction doesn't help comprehension, what's the point?

Despite the tremendous amount of reading research in recent years, many teachers continue to struggle to implement evidence-based practices. Numerous studies have demonstrated that many preservice and practicing teachers lack the knowledge necessary to use such practices effectively (e.g., Carreker et al., 2007; Leader-Janssen, & Rankin-Erickson, 2013). Teacher education and professional development activities must organize the findings of research to make it comprehensible for teachers.

We have found the framework described here extremely useful in planning and developing comprehensive reading programs, as well as reading intervention efforts. Much has been written about the importance of teachers' pedagogical content knowledge for improving classroom practice and student outcomes. The FRI conceptual framework of reading provides a useful model to coherently organize the content of contemporary reading research in a way that can promote teachers' knowledge and their efforts to enhance reading instruction and intervention. ■

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