

# Research to Practice



## Scientifically-Based Reading Research: A Primer for Adult and Family Literacy Educators

Nancy Padak  
Tim Rasinski  
Kent State University

Maryann Mraz  
University of North Carolina--Charlotte

The National Reading Panel (NRP) issued a report in 2000 that responded to a Congressional mandate to review reading research (for grades K-3) and to identify methods that lead to reading success. Although some literacy scholars have criticized some of the Panel's methods, NRP findings form the cornerstone of the *Reading First* and *Early Reading First* portions of the new federal education legislation. The Panel identified five areas of reading instruction and offered instructional guidance based on "scientifically-based reading research." In this brief publication, we identify and explain these five areas, summarize the NRP's instructional recommendations, and provide some advice for instruction in adult and family literacy education.

**Phonemic Awareness** is the ability to hear, identify, and manipulate individual sounds—phonemes—in spoken words. Phonemic awareness is not the same as phonics, which involves understanding how *written* letters relate to specific sounds. Phonemic awareness focuses on how the sounds of *spoken* language are put together to form *spoken* words. Before someone can learn to read printed letters and words, he or she needs to understand that words are made up of different speech sounds, or phonemes. A phoneme is the smallest part of sound in a spoken word that makes a difference in the word's meaning. For example, changing the first phoneme in the word *ball* from /b/ to /k/, changes *ball* to *call*. Changing the beginning phoneme changes the meaning of the word.

The NRP found that instruction improves children's phonemic awareness, reading, and spelling capabilities. The Panel's report pointed out that, while phonemic awareness instruction does not constitute a complete reading program, it does help to provide a foundation for building future knowledge of the alphabetic system. Effective instruction focuses on one or two types of phoneme manipulation (rather than several at the same time). Phonemic awareness activities work best when beginning readers are taught to manipulate phonemes using letters of the alphabet.

Students can demonstrate their knowledge of phonemic awareness in several ways:

- Being able to recognize words in a set of words that rhyme. For example, you might say, "Listen to the words *cat*, *bat*, *dig*. Which words rhyme?"
- Recognizing words that begin with the same sound. For example, "Listen to the words *dog*, *dad*, and *day*. What sound do you hear at the beginning of those words?"
- Isolating and saying the first or last sound in a word. For example, "What sound do you hear at the beginning of *sit*?" "What is the last sound you hear in *bear*?"
- Blending together the separate sounds in a word in order to say the complete word. For example, "When you put the sounds /m/, /a/, /p/ together, what word do these sounds make?"
- Taking apart the individual sounds that comprise a word. For example, "What sounds do you hear in the word *cup*?"

Adults at Level 1 (and perhaps Level 2) may benefit from phonemic awareness training. Teachers who want to assess beginning readers' phonemic awareness may find the Yopp-Singer Test of Phonemic Awareness (Rasinski & Padak, 2001; Yopp, 1995) helpful but should use caution with the norms tables since they reflect young children's (not adults') development.

Parents in family literacy programs should understand what phonemic awareness is and why it's important for their children's literacy learning. Adult Basic and Literacy Education (ABLE) or Parenting Education class sessions can be used to develop this understanding as well as to provide parents an opportunity to create little phonemic awareness games to play with their children. Parents and Children Together (PACT) time might offer a good setting for playing these games.

**Phonics** helps readers learn the relationships between the letters of written language and the sounds of spoken language. Phonics instruction is most effective if begun in K-1 for children and at Levels 1 and 2 for adults. Effective phonics programs are systematic, explicit, and provide ample opportunities for students to apply what they are learning to real reading.

The NRP explains that systematic phonics instruction is more effective than incidental phonics instruction. Systematic phonics instruction provides the direct, explicit teaching of sound-letter relationships in a clearly defined sequence. For example, rather than simply pointing out sound-letter relationships as they occur randomly in a text that a student is reading, the teacher might select a book or an activity that will focus the learner's attention on a particular letter or group of letters. Pattern books, rhymes, songs, poems, and short stories can help readers practice the letter-sound relationships they are learning. Additional activities and games that engage the student in working with a specific letter or group of letters may also be useful.

Phonics instruction must focus on reading print rather than on simply learning rules. When working with a beginning reader, talk with the learner about why he or she is learning phonics and how that knowledge can be used in reading and writing. Encourage the learner to use phonics knowledge in his or her own reading and writing.

**Fluency** is the ability to read a text accurately and quickly. Fluency is necessary for reading comprehension. A reader who struggles with words tends to read at a very slow rate and with monotone inflection. The reader is so focused on pronouncing individual words that he or she is not able to think about meaning. Fluent readers recognize most words rapidly and accurately, and, therefore, can focus their attention on making sense of the text.

Fluency is not a single stage in reading development. A reader's fluency depends on the text. Fluency is enhanced with practice, especially when texts contain familiar words and concepts. Even a skilled, experienced reader may struggle with a text that is too difficult.

Reading fluency can be developed by modeling fluent reading and by having students engage in repeated oral reading. A beginning reader needs opportunities to read in context and to hear examples of fluent reading.

Provide these opportunities by reading aloud to students and by modeling what fluent reading sounds like. The NRP further suggests that providing guidance and feedback as a student reads aloud supports fluency development. Predictable, familiar stories; repetitive language or phrases; and rhymes are useful for fluency development, as are opportunities to practice and then read aloud to an authentic audience (e.g., parents reading to children).

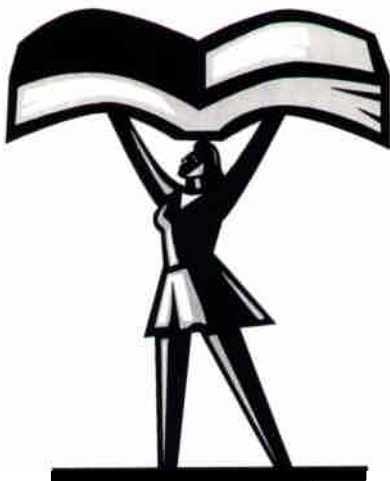
**Vocabulary** includes both oral (speaking and listening) and written (reading and writing) vocabulary. Vocabulary knowledge is important for successful reading and necessary for comprehension. The larger a person's vocabulary, the easier it is to comprehend. It is not enough to merely memorize definitions of words. A reader needs to develop a deeper knowledge of words in order to quickly access word meanings when reading.

Some vocabulary can be learned indirectly, by reading independently or by listening to someone read aloud. Other vocabulary must be taught more explicitly. For example, explicit instruction may be needed to learn how to use context clues and word derivations (small parts of words such as prefixes or suffixes) to decipher the meaning of a whole word.

New words can also be learned through conversation. Listening as others read and participating in discussions about texts, as well as reading independently, help introduce and clarify new vocabulary. Three principles should guide effective vocabulary instruction (Vacca, Vacca, & Gove, 2000): a) Encourage students to relate vocabulary words to what they already know, b) teach words in relation to other words, and c) foster an interest and enthusiasm for learning words.

**Comprehension** is purposeful and active. Comprehension strategies can be taught through explicit instruction, cooperative learning, and helping students learn to use strategies flexibly and in combination. The NRP advises teaching comprehension by demonstrating how to use reasoning skills and problem-solving strategies. A student should be encouraged to use comprehension strategies flexibly and in combination with one another. Teachers can help students be aware of what they do not understand when reading, ask questions about the text, and make predications. Using strategies such as charts or story maps can clarify the meaning of the text.

Comprehension occurs before, during, and after reading. Pre-reading activities build interest and activate the student's prior knowledge. During reading, the student can make and confirm, modify, or reject predications about upcoming events in the story or describe mental images or "pictures" of events or characters in a story. After reading, the student could write in a response journal or sketch a picture of an event or character in the text. Learn-



ers can retell the text, compare it with others, or evaluate it in terms of his or her life. Discussion is another option. Activities like these encourage the student to remain involved in reading. They also teach strategies that learners can use in the future.

### Using “Scientifically Based Reading Research” in Adult and Family Literacy Programs

The NRP limited its definition of “scientifically-based reading research”—only studies that featured quantitative measures of effects were included. Thus, the NRP did not review qualitative research, descriptive studies, or work that did not yield a statistical effect. Although we agree that the areas identified by the NRP are indeed critically important, we also believe that different kinds of research point to other keys to reading success (e.g., the volume of reading done by learners).

Despite this caution about the narrow nature of NRP findings, the NRP results can be used to evaluate current ABLE or family literacy reading instruction and to provide direction for program refinement or professional development. For example, teachers might track instructional activities over a period of time, sort the activities according to the 3-5 areas from the NRP that apply to learners’ current achievement levels, and examine results to evaluate the quality and appropriateness of instructional opportunities. Or programs can use results of program evaluations, especially in the areas of learner achievement, to select an area from the NRP to provide a focus for professional development activities.

Many resources are available for locating instructional activities that can enhance “scientifically-based” instruction in ABLE and family literacy reading programs. Most current reading methods texts will offer a plethora of instructional ideas. In addition, many OLRC online resources reflect the instructional guidelines set forth in the NRP. All the teaching strategies described in the OLRC’s database *Eureka!* (<http://literacy.kent.edu/eureka>), for example, enhance students’ text comprehension (both narrative and expository) and in many cases, vocabulary. Other instructional suggestions may be found in *A Handbook of Effective Literacy Instruction* (Rasinski & Padak, 1995) (<http://literacy.kent.edu/Oasis/Pubs/handbookTOC.html>); this resource contains separate chapters about word identification (including phonics) and fluency. The recent OLRC publication, *Strategies That Work: What Does the Evidence Tell Us?* (Padak, 2002) (<http://literacy.kent.edu/Oasis/Pubs/0200-23.pdf>) describes generic teaching strategies that have proven to increase learning. And *Literacy Tips for Children* (Mraz, Padak, & Baycich, 2002) ([http://literacy.kent.edu/Oasis/Pubs/child\\_lit\\_tips.pdf](http://literacy.kent.edu/Oasis/Pubs/child_lit_tips.pdf)) can be used in family literacy programs to help parents understand NRP findings so that they can both support their children’s literacy development and understand the focus of their children’s school reading programs.

The NRP’s charge from Congress focused on K-3 reading research, so some might question the applicability of the Panel’s findings and recommendations for other learners. In a way, some caution makes sense. For example, phonemic awareness instruction is most appropriate for beginning readers, whether adults or children. Moreover, by the time they reach Level 3, most ABLE learners have developed word identification strategies and, therefore, may not benefit from a significant emphasis on phonics instruction. Readers at all ages and levels, however, will benefit from instruction that focuses on fluency, vocabulary, and—the heart of the reading process—comprehension. The NRP’s instructional recommendations in these three areas are commonly accepted guidelines for all learners, including those in adult and family literacy programs.

### References and Sources For More Information

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