

Decoding Skills

1. Phonics/Sequential Decoding

The role of phonics in beginning reading instruction has been the topic of what seems like endless discussion and debate; the consensus among the documents reviewed for this framework is striking—early, direct, systematic, explicit instruction in phonics results in higher levels of beginning reading achievement. English is an alphabetic language in that the sounds (phonemes) that compose the language are represented by letters (graphemes). Unless children come to understand this “alphabetic principle”, or code, their progress in reading will be very limited.

One of the major issues in phonics instruction is whether or not phonics should be taught “explicitly.” There are two dimensions that distinguish explicit phonics instruction—sounds associated with letters are identified in isolation, and the isolated sounds are blended together to produce a word. This blending of sounds to identify words is called sequential decoding. In contrast, in implicit instruction, teachers point out relationships among whole words; for example, “bed” and “boat” both sound like they begin the same.

In the past, prior to the accumulation of convincing evidence, there were concerns about teaching children to sequentially decode words because it was seen as a slow, laborious, attention-draining process; if a child’s attention was fully focused on decoding, this seemed likely to interfere with the child’s ability to construct the meaning of the text being read. However, it is only through such deliberate attention and processing of print that children develop the ability to rapidly and automatically recognize words the way mature readers do. This rapid, automatic recognition of words frees the reader’s attention for constructing meaning from the text she or he is reading. Thus, sequential decoding is a reasonable, reliable way for children to identify words that are unfamiliar to them in print; however, sequential decoding has the long-term beneficial effect of familiarizing children with the letter patterns in words, which allows for rapid, effortless word identification.

The following quotations support the systematic, explicit teaching of phonics and sequential decoding:

- **1967 - Chall**

“My analysis of the existing experimental comparisons of a meaning emphasis versus a code emphasis tends to support Bloomfield’s

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Phonics/Sequential Decoding (continued)

definition that the first step in learning to read in one's native language is essentially learning a printed code for the speech we possess. It does not support the prevailing view that sees the beginning reader as a miniature adult who should from the start, engage in mature reading. Early stress on code learning, these studies indicate, not only produces better word recognition and spelling, but also makes it easier for the child eventually to read with understanding—at least up to the beginning of the fourth grade, after which point there is no particular evidence.” (p. 83)

“It [experimental research] does, however, show us that the two emphases produce different learning patterns. There is some experimental evidence that children of below-average and average intelligence and children of lower socioeconomic background do better with an early code emphasis.” (p. 84)

“In short, the clinical reports analyzed give us reason to believe that a stronger code emphasis would help prevent reading failure, although never eliminate it entirely.” (p. 84)

“I cannot emphasize too strongly that the evidence does not endorse any one code-emphasis method over another... Nor can I emphasize too strongly that I recommend a code emphasis only as a beginning reading method—a method to *start* the child on—and that I do *not* recommend ignoring reading-for-meaning practice.” (p. 307)

[NOTE: In a 1983 release of Chall's report, she adds evidence that programs teaching direct synthetic phonics appear to be especially effective (see Adams, p. 39, footnote 10).]

- **1985 - Anderson, Hiebert, Scott, & Wilkinson**

“Classroom research shows that, on the average, children who are taught phonics get off to a better start in learning to read than children who are not taught phonics. The advantage is most apparent on tests of word identification, though children in programs in which phonics gets a heavy stress also do better on tests of sentence and story comprehension, particularly in the early grades.” (p. 37)

“Research indicates that teachers who spend more than average amounts of time on blending produce larger than average gains on first- and second-grade reading achievement tests.” (p. 39)

“Research evidence tends to favor explicit phonics instruction.” (p. 43)

“The best way to get children to refine and extend their knowledge of letter-sound correspondences is through repeated opportunities to read.” (p. 38)

- **1990 - Adams**

“In summary, deep and thorough knowledge of letters, spelling patterns, and words and of the phonological translations of all three, are of inescapable importance to both skillful reading and its acquisition. By extension, instruction designed to develop children’s sensitivity to spellings and their relations to pronunciations should be of paramount importance in the development of reading skills. This is, of course, precisely what is intended of good phonics instruction.” (p. 416)

“Perhaps the most well-respected value of letter-sound instruction is that it provides children with a means of deciphering written words that are not familiar as wholes. Applying their knowledge of letter-to-sound correspondences, they can sound the word out discovering or confirming its identity by themselves.” (p. 216)

“...the ability to perceive words and syllables as wholes evolves only through complete and repeated attention to sequences of individual letters.” (p. 130)

- **1998 - Hiebert, Pearson, Taylor, Richardson, & Paris**

“Children initially apply knowledge of phonics as they move sequentially through the letters of a word... **Teacher demonstrations** of how to segment and blend sounds to decode unknown words are a primary source of information for beginning readers... **Making words** involves children in spelling words with the letter-sound patterns that are the focus of lessons... **Writing with phonetic spelling** gives children many opportunities to practice decoding words sequentially.” (Topic, p. 3)

Phonics/Sequential Decoding (continued)

- **1998 - Snow, Burns, & Griffin**

“First grade instruction should be designed to provide explicit instruction and practice with sound structures that lead to phonemic awareness, familiarity with spelling-sound correspondences and common spelling conventions and their use in identifying printed words, ‘sight’ recognition of frequent words, and independent reading, including reading aloud.” (p. 322)

- **1998 - Learning First Alliance**

“To integrate research-based instructional practices into their daily work, teachers need: ...A proper balance between phonics and meaning in their instruction.” (p. 12)

“...it is probably best to start all children, most especially in high-poverty areas, with explicit phonics instruction.” (p. 13)

2. Analogy

In addition to recognizing words through the use of individual letter-sound associations, an analogy approach to word identification focuses on recognizing a new word because it shares a word pattern with a known word. For example, a child who knows the word *make* very well, and who knows the sound for the letter *l*, could use this combined information to identify a previously unseen word—*lake*.

The most common approach to teaching children word patterns is to work with commonly occurring rimes. (A rime is the vowel in a syllable and any consonants that follow it; e.g., *ake* in *lake*, *in* in *pin*; *e* in *me*.) Rimes are more commonly referred to by teachers as “phonograms” or “word families.”

Reading words through analogy or through a focus on rimes is not a substitute for sequential decoding. The previous discussion of phonics makes it clear that careful, sequential application of letter-sound associations is a necessary step in building familiarity with the orthographic patterns in words; working with phonograms can reinforce patterns that are common to many words.

Research-based reading materials must present coherent, well-coordinated instruction in reading that includes phonics and reinforces common spelling patterns through instruction with common rimes, which helps children decode by analogy. The following quotations support these conclusions:

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- **1990 - Adams**

“Word families or phonograms are lists of words that by design share some significant fragment of their spelling and sound pattern, such as **bill, fill, pill, will, hill...** exercise with word families fulfills the desirable goal of reinforcing the integrity of frequent spelling patterns even as they participate in different words. For both skillful readers and computer simulations of skillful readers, the orthographic representations of words with such overlapping spelling patterns are tightly interrelated in memory.” (p. 132)

“...Several recent studies have obtained improvements in children’s ability to pronounce two syllable words by training them to compare each syllable to known one syllable words.” (p. 133)

“Furthermore, sets of words with matching rimes, such as **bell, tell, sell, fell,** are nothing more or less than ‘phonograms’ or ‘word families.’ They have long been central components of a variety of approaches to instruction on word identification.” (p. 319)

“Although our attention to the perceptual salience of onsets and rimes has thus far been focused on its implications for the acquisition of phonemic awareness, evidence suggests that these units may be equally influential in the acquisition and operation of printed word recognition skills... most provocative of all in this domain may be a recent report by Goswami that low readiness five and six year olds can occasionally, with no further instruction, induce the pronunciation of new words by analogy to another with the same rime.” (pp. 319-320)

“In further support of the utility of phonograms for beginning reading instruction, Wylie and Durrell pointed to their generalizability more specifically... Wylie and Durrell point out that nearly 500 primary words can be derived from a set of only 37 rimes...” (p. 321)

- **1998 - Hiebert, Pearson, Taylor, Richardson, & Paris**

Decoding by analogy - “When children encounter new words with similar letter combinations then they realize that ‘fill’ must rhyme with ‘Bill,’ and that ‘sail,’ ‘tail’, and ‘rail’ all include the same letter-sound combinations.” (Topic 3, p. 3)

3. Context

Context, when applied to decoding or word recognition, refers to the use of syntactic and meaning clues to help identify an unknown or difficult word in a text that is being read. Consider, for example, the incomplete sentence, “He was riding on a _____.” The syntax indicates that the missing word is a noun; the accumulated meaning of the sentence suggests the missing word may be a vehicle (bicycle, wagon), an animal (donkey, horse), or a physical place (hill, mountain), and other possibilities as well.

In the past, it was speculated that poor readers had difficulty reading because they weren’t using context clues; however, more recent research has shown convincingly that young and poor readers rely on context clues more than skilled, proficient readers. Skilled readers are able to quickly and accurately identify words based on their letter composition.

Research also confirms that context clues are limited because they are not reliable; it is rarely possible to determine an exact word in a text based on context. Context narrows the word possibilities, but rarely determines the exact word of a text, as is illustrated in the incomplete sentence used previously in this section. This does not mean that use of context is an unimportant skill for mature, efficient reading. Context serves at least three important functions: (1) it helps to confirm the pronunciation of a word that a child might arrive at through sequential decoding, (2) it clarifies multiple-meaning words and in this sense may even be necessary to arrive at the correct pronunciation of a word (e.g., “lead a parade” vs. “a lead pipe”), and (3) it sometimes helps with the meaning of a word that is not known by a reader.

Research-based reading instruction and instructional materials must teach children not to over-rely on context. The instruction must focus on the appropriate use of context, which teaches children to focus first on the visual form of the word and its letter-sound associations. The following quotations from research reports support the conclusions drawn about the use of context:

- **1990 - Adams**

“...the reader’s understanding of the context in which a word occurs can help to emphasize or boost the activation of contextually relevant components of the word’s meaning, to select alternative interpretations

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of ambiguous words, and even to create a meaning for the word where there otherwise might be none.” (p. 175)

“For readers with less orthographic facility, one might expect word recognition to depend much more strongly on contextual clues. Research confirms this hypothesis. Younger and poorer readers tend to rely significantly more heavily on context than do more experienced and skillful readers.” (p. 182)

“The major problem with using contextual cues for word identification is that they are unreliable... The strategy of relying on context is also less than ideal for purposes of word learning.”

- **1998 - Snow, Burns, & Griffin**

“Although context and pictures can be used as tools to monitor word recognition, children should not be taught to use them to substitute for information provided by the letters in the word.” (p. 323)

“Laboratory research with good and poor readers at second grade and beyond has repeatedly demonstrated that, whereas good readers become as fast and accurate at recognizing words without context as with, poor readers as a group remain differentially dependent on context. An overreliance on context is symptomatic that orthographic processing is processing neither quickly nor completely enough to do its job.” (p. 212)

“Word meanings and sometimes their pronunciations are necessarily context dependent; for example, ‘spring’ can refer to a season of the year or a coiled piece of metal and ‘read’ can be pronounced like ‘reed’ or ‘red.’ Context is important in interpreting the meaning of a word in a sentence, and skilled readers do this more efficiently than less skilled readers... and although skilled readers are very good at using context to figure out the meaning of a word, it is less skilled readers who attempt to make the greater use of context to identify a word.” (pp. 66-67)

4. Instant Word Recognition

Previous sections of this paper presented the major roles that phonics and analogy approaches play in word recognition. However, those sections also noted that skilled readers become capable of recognizing words with remarkable speed—they recognize words instantly (by sight). This instant, accurate recognition of most of the words a reader encounters is critical; if students must focus much of their attention on decoding words, insufficient attention will be available for constructing the meaning of text. In order to build a large store of words that are recognized instantly, children need many opportunities to read. A large instant recognition vocabulary helps make children adept in word reading and fluency.

There is a special class of words that is particularly important in beginning reading instruction—high-frequency words—those words that appear over and over again in English. Approximately 300 words account for 65% of the words in beginning reading materials, and a mere 500 words account for 90% of the running words in children’s text. These words are particularly challenging because they carry little concrete meaning and because many of them are composed of irregular letter-sound relationships. For example, *the* should rhyme with *be* and *was* with *gas*; *to* should be pronounced as *toe*, and *of* as *off*.

Research-based instructional materials need to pay careful attention to building instant recognition (sight recognition) of many words through careful attention to the letters and orthographic patterns in those words, with special attention in beginning reading instruction to high-frequency words with their attendant letter-sound correspondence irregularities. Young readers also need to read appropriately challenging texts that not only allow for the application of the phonics skills they are learning, but which contain and repeat the high-frequency words that are critically important for success in beginning reading. (See *Texts for Reading Instruction*.)

The following quotations from research syntheses support the development of a wide instant-recognition vocabulary with special attention to high-frequency words.

- **1985 - Anderson, Hiebert, Scott, & Wilkinson**

“Phonics instruction is just the first step toward the ultimate goal of fast, accurate word identification and fluent reading. What must occur is that students become so familiar with letter-sound relationships that words are identified automatically, that is, with little conscious attention.”
(p. 46)

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- **1990 - Adams**

“The first salient characteristic of skillful readers is that they act as if they recognize words holistically.” (p. 96)

“Both the immediate and long term impact of reading depend critically on the speed as well as the accuracy with which readers can identify the individual letters and words of the text.” (p. 159)

“Line by line in running text, most words are common words—words that are seen frequently and that we must generally recognize instantly and easily... Carroll, Davies, and Richman reported that 90 percent of school children’s running text consists of just 5,000 common words and a similar distribution is found in adult texts.” (p. 184)

- **1998 - Snow, Burns, & Griffin**

“...the committee strongly recommends attention in every primary classroom to the full array of early reading accomplishments: the alphabetic principle, reading sight words, reading words by mapping speech sounds to parts of words, achieving fluency and comprehension.” (p. 6)

“Entry level rebus books are often designed to build a basic sight repertoire of such short and very frequent function words as ‘the’, ‘of’, ‘is’ and ‘are’.” (p. 182)

“First-grade instruction should be designed to provide:...

- sight recognition of frequent words;...” (p. 194)

“...Adequate progress in learning to read English beyond the initial level depends on having established a working understanding of how sounds are represented alphabetically, sufficient practice in reading to achieve fluency with different kinds of texts written for different purposes, instruction focused on concept and vocabulary growth, and control over procedures for monitoring comprehension and repairing misunderstandings.” (p. 223)

- **1998 - Hiebert, Pearson, Taylor, Richardson, & Paris**

“Proficient readers recognize the vast majority of words in texts quickly, allowing them to focus on the meaning of text. Since approximately

Instant Word Recognition (continued)

300 words account for 65% of the words in texts, rapid recognition of these words during the primary grades forms the foundation for fluent reading.” (Topic 4, p. 1)

• 1998 - Learning First Alliance

“By second grade, children should be able to sound out short phonetically regular words, know many ‘sight’ words and have good reading comprehension skills.” (p. 5)

...another, perhaps ultimately more important, consequence of careful attention to the letters of words is the ability to recognize words easily and effortlessly so that the reader’s attention can be focused on comprehending and enjoying the text.