

particularly about patterns in words. Children must learn to sequentially decode words, but that does not mean they need to be taught with a synthetic phonics approach.

### Children Need to Apply Phonics But Do Not Need to Be Restricted to Highly Decodable Text

The two sentences in the previous section about Dad, Ann, and Nan are an example of highly decodable text. Based on the finding that children need to have opportunities to apply their phonics to decode words (Juel & Roper/Schneider, 1985), some researchers have advocated the exclusive use of highly decodable texts for beginning reading. In her summary of National Institute of Child Health and Human Development (NICHD) research, Grossen (1997) suggests that decodable text be required for beginning reading instruction. Many reading educators and psychologists have since questioned this summary (e.g., Allington & Woodside-Jiron, 1997; Hiebert, 1999). Although there is general agreement that children need text in which they have to apply their decoding to some words, there does not seem to be any support in the research for recommending highly decodable text as the exclusive beginning reading material for all children.

Hiebert (1999) makes the case for children reading text that provides practice with high-frequency words, along with opportunities to apply decoding skills and use meaning-based cues. Because she does not see these “multiple criterion” texts presently available, she suggests teachers may want to provide different kinds of texts—some more sight-word oriented, some more decoding oriented, and some more meaning-cue oriented—to children on a regular basis so that they learn to use all the word identification cues fluent readers actually use.

### As Children Learn More Words, They Use Patterns and Analogy to Decode

Imagine that you are reading and encounter the words *spew* and *spate* for the first time. You would probably quickly pronounce them in your mind and then try to make sense of them in their sentence context: *A spate of people gathered when the oil began to spew out of the ground.* Good readers encounter new words in their reading all the time. If you have never seen a word before, you have to decode it—get it pronounced—in some way, whether overtly or covertly. Some researchers (Adams, 1990; Goswami, 2000; Goswami & Bryant, 1990; Moustafa, 1997) believe

that the way you decode many, if not most, words is to use patterns learned from other words. *Spew* has two patterns—*sp* and *ew*—often called the onset and the rime. *Spate* has the same onset—*sp*—but a different rime—*ate*.

Because you are a fluent reader, when you first encountered *spew* and *spate*, you probably automatically decoded these words using the patterns—*sp*, *ew*, *ate*—familiar to you from words such as *spill*, *spy*, *new*, *few*, *chew*, *ate*, *gate*, *date*, *hate*. If you had encountered these words earlier in your reading development when you did not have the *sp*, *ew*, *ate* patterns firmly established from many other words, you might have had to go through a slightly longer process in which you thought of some *sp*, *ew*, and *ate* words you knew, used these words to find the pattern, and applied these patterns to the new words. Your brain may have thought something like, “*S-p* is how words like *spill* and *spy* begin. *E-w* is in *new* and *chew*. *A-t-e* is in *ate* and *date*.” You use analogy to decode when your brain accesses other words you know and combines these patterns to decode new words.

Decoding by pattern and analogy uses the same units—the onset and the rime. It is difficult, if not impossible, to know which one a reader is using. In general, the more words you have read with a particular pattern, the more apt you are to have that pattern stored in your brain and thus the less likely you will go through an analogy process. When you are just beginning to learn to read, you do not have enough words to use analogies or to induce patterns. Most researchers believe that by the time children have a fluent first-grade reading level, they are using patterns and analogy as their major decoding strategy.

Gaining knowledge of rime patterns may be particularly important for learning to decode the “vowel plane” of words because of the difficulty of vowels and how vowel sounds are affected by other letters in the word, particularly the consonants that follow them (Berent & Perfetti, 1995; Goswami, 2000).

### Children Decode Multisyllabic Words Using Patterns That Are Often Morphemes

What do you do when you come to large words in your reading that you have never encountered before? Imagine the first time you meet the printed words *technostress* and *desertification*. Just as with smaller words, you decode or pronounce them. You probably pronounce *technostress* quite quickly and even figure out a meaning: “I know how that feels!”

*Desertification* probably takes a little longer and may require a sentence context to solidify the meaning: *The desertification in Africa caused by the removal of trees and brush should be of concern to the entire world community.* Using what you know about the root word *desert* and other words that end in *ification*, such as *modification* and *unification*, along with the sentence context, you confirm your pronunciation and construct meaning for *desertification*.

Decoding large words is also accomplished by patterns and analogy. Rather than onsets and rimes, however, the patterns are often morphemes—root words, suffixes, and prefixes. English is the most morphologically connected language. Estimates are that for every word you know, you can quickly learn six or seven other words that share some of the same morphemes (Nagy & Anderson, 1984). Because morphemes provide meaning clues as well as decoding and spelling patterns, learning how to use the morphemes in large words helps you build your meaning vocabulary. Wide reading is the most significant predictor of vocabulary size, and the best guess of experts is that you use context and morphological clues together to infer meanings for new words you encounter in your reading.

## Research-Based Phonics Instruction

We now come to the question that drives this chapter. How should we teach phonics, given all that we know about how children learn and particularly how children learn to decode? In this section, we will first show how research supports the value of reading, writing, and multiple activities for the teaching of phonics. We will then describe three phonics instructional activities that are consistent with the research summarized in the first two sections of this chapter.

### Children Should Spend Most of Their Reading/Language Arts Time Reading and Writing

Although it is difficult to fix a specific number, the ratio of real reading and writing time to phonics instructional time we have settled on is 3 to 1. Over the past 12 years, we have developed an effective instructional framework for primary literacy instruction called The Four Blocks (Cunningham, Hall, & Defee, 1998; Cunningham, Hall, & Sigmon, 1999). Children in Four Blocks classrooms spend 30 to 40 minutes each day engaged in guided reading, 30 to 40 minutes in self-selected reading (which includes teacher read-aloud), 30 to 40 minutes in writing, and 30

to 40 minutes working with words. Three blocks, or three quarters of the language arts time each day, are allotted to real reading and writing.

It is beyond the scope of this chapter to describe in detail all the activities that occur during the guided reading, self-selected reading, and writing blocks, but these three instructional methods are critical to implementing the general learning principles discussed earlier. Because these three methods largely consist of “real” literacy activities, they help develop cognitive clarity about what reading and writing are and how they are used. As children find pleasure and success in reading and writing, their level of literacy engagement increases. There is much variety within each of these three methods, making the literacy experience a multifaceted one. Self-selected reading and writing are always on each child’s reading level and thus assure that a good part of each day’s instruction is multilevel. In addition, these three methods support the teaching of phonics that takes place in the working-with-words block.

Guided reading instructional time provides students with guided practice in applying the phonics skills they are taught during the working-with-words sessions. Self-selected reading and writing instructional times each provide students with both guided and independent practice in applying those phonics skills. During writing instructional time, writing with invented spelling also fosters phonemic awareness and sequential decoding.

Clarke (1988) compared the effectiveness of invented spelling versus an emphasis on correct spelling in first-grade classrooms. The children who had regularly invented spellings were superior to the others on measures of word decoding at the end of the year. Furthermore, invented spelling was particularly helpful to learning phonics for those first graders who had been designated as having low readiness at the beginning of the year.

### Phonics Should Be Taught Through a Variety of Multilevel Activities That Emphasize Transfer

We now turn our attention to the time designated to helping children learn phonics. From our experiences helping teachers implement The Four Blocks, we have learned that a variety of phonics instructional activities that emphasize transfer help children at all levels learn phonics without boredom.

There are a number of activities we use to help children develop their phonics skills. Following, we will briefly describe three of these activities and then explain how they reflect our learning and phonics principles.

**Making Words.** Making Words (Cunningham & Cunningham, 1992; Cunningham & Hall, 1994) is a manipulative activity in which children learn how to look for patterns in words and how changing just one letter or where a letter is placed changes the whole word. Each Making Words lesson has three parts. First, children manipulate letters to make 10 to 15 words—including a “secret” word made from all the letters. Next, they sort the words into patterns. Finally, they learn how to transfer their phonics knowledge by using rhyming words they have made to decode and spell some other rhyming words.

To plan a Making Words lesson, we begin with the secret word. Here is an example for a Making Words lesson in which the secret word is *Martin*. This word was chosen to fit a theme—famous African Americans—and it allows us to make words we can then sort for the *t-r* blend and lots of rhymes. Using the letters in *Martin*, we choose 10 to 15 words that will give us some easy and harder words, some *t-r* words, and several sets of rhymes. We then decide on the order in which words will be made, beginning with short words and building to larger words. We write these words on index cards to use in the sorting and transferring parts of the lesson.

As the children make each word, we choose one child who has made it correctly to come and make it in a pocket chart. As the lesson begins, the letters *a, i, m, n, r,* and *t* are in the pocket chart. The children each have the same letters and a holder. The teacher leads them to make words by saying the following:

Take two letters and make *am*: I *am* your teacher.

Now, change just one letter and you can spell *at*: We are *at* school.

Add a letter to make the three-letter word *rat*.

Now change just one letter and *rat* can become *mat*: In kindergarten you slept on your *mat*. Everyone say *mat*.

Change a letter again and turn your *mat* into a *man*.

Now change just one letter and *man* can become *tan*.

Change *tan* into *ran*.

Now change one letter and change *ran* into *ram*: Our high school’s mascot is a *ram*. Everyone say *ram*.

Let’s make one more three-letter word—*rim*: The top edge of something like a glass is called a *rim*. Everyone say *rim*.

Now, we are going to make some four-letter words. Add one letter to *rim* and you will have *trim*. Trim is another word for decorate: At Christmas, we *trim* the tree. Stretch out the word *trim* and listen to the sounds you hear yourself saying.

Change *trim* to *tram*: You can ride in a *tram*. Everyone say *tram*.

Take out all your letters and start over and make another four-letter word—*main*. You can only hear three sounds in *main*, but it takes four letters to spell it. Think about what letter you can’t hear and where to put it.

Now change just one letter and *main* can become *rain*.

Now, let’s make a five-letter word. Add just one letter to *rain*, and you will have a *train*.

Has anyone figured out the secret word? I will come around to see if anyone has the secret word.

Children often have trouble figuring out the secret word when it is a name—even though all their letters have a capital letter on one side. If no one has figured out the secret word, we give them a hint, such as, “It’s the name of one of the African Americans we have been studying.”

Several children quickly figure out their letters can spell *Martin* and a child who had spelled it correctly makes it with the pocket chart letters. Then, everyone makes *Martin* in their holders to finish the first part of the lesson.

For the sorting part of the lesson, we put the words on index cards in the pocket chart. The first sort in this lesson is for beginning sounds. The teacher tells the children to sort out all the words that do not begin with a vowel and put them together in columns with all the same letters up to the vowel. The children are used to sorting for all beginning letters and quickly arrange the pocket chart index cards so that these words are grouped together:

rat	mat	tan	trim
ran	man		tram
ram	main		train
rim	Martin		
rain			

The teacher and children pronounce all the words, paying special attention to the three *t-r* words. They “stretch out” *trim*, *tram*, and *train* and agree that you can hear both the *t* and the *r* “blended together.”

Next, we help them sort the words into rhymes:

am	at	man	main	rim
ram	rat	tan	rain	trim
tram	mat	ran	train	

Once the words are sorted into rhymes, we remind the children that rhyming words can help them read and spell words. We then write two new rhyming words on cards and have them place these words under the rhyming words and use the rhymes to decode them:

swim	Spain
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Finally, we say two rhyming words and help them use the rhyming words to figure out how to spell them:

clan	Spam
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When the lesson ends, the transfer words are lined up under the rhyming words in the pocket chart:

am	at	man	main	rim
ram	rat	tan	rain	trim
tram	mat	ran	train	swim
Spam		clan	Spain	

Making Words lessons teach children many things. The children learn that you pay attention to the sounds in words and figure out the letters so that you can spell and read lots of words. They learn to pay attention to all the letters because changing just one letter results in a new word. They also learn that it matters where you put the letters. Through the transfer words, children learn that knowing phonics helps you decode and spell other words. In short, they develop cognitive clarity about words and why and how we use phonics.

Making Words lessons promote engagement because all children can be successful. We send children who have made words correctly to make them with the big letters and, because we know which children to spotlight for which words, all children experience success. Making Words

lessons are also “hands-on-minds-on” activities in which there are puzzles to be solved:

How can you change one letter and make *trim* become *tram*?

What letter can you add to turn *rain* into *train*?

What is the secret word that can be made with all these letters?

Which rhyming words will help me spell *Spam*?

Manipulating letters and solving puzzles is fun and most children perceive Making Words as a pleasurable activity, thereby increasing their engagement with letters, sounds, and words.

Making Words lessons are multilevel in many ways. Each lesson begins with short, easy words and progresses to larger words, including the secret word. Figuring out the secret word in the limited time available is a challenge for even the most advanced readers. Making Words includes even children with very limited literacy who enjoy manipulating the letters and making the words even if they do not get the larger words completely made until these words are made with the pocket chart letters. By ending each lesson with sorting the words into patterns and then using those patterns to read and spell some new words, we help children of all levels see how you can use the patterns you see in words to read and spell other words.

Making Words lessons develop phonemic awareness when children stretch out words to hear the sounds and the order of these sounds. Sorting the words by beginning letters and then into rhyming words develops another facet of phonemic awareness. Children who listen for sounds and then select letters to represent these sounds and arrange them to make words are practicing sequential decoding. Sorting and using the rhyming patterns helps them learn rhyming patterns, and deciding which rhyming words will help them read and spell the transfer words fosters the analogy decoding strategy.

*Using Words You Know.* Using Words You Know (Cunningham, 2000) is an activity designed to help students learn to use the words they already know to decode and spell many other words. The activity begins with some known words and then helps children learn how these words they know help them read and spell other words. Following is an example using the known words *bike*, *car*, *van*, and *train*.