

# The Role of Decoding in Learning to Read

By Isabel L. Beck and Connie Juel

As anyone knows who has both read to young children and watched them begin learning to read, there is a great difference in the sophistication of their abilities in the two arenas. As an illustration, consider a typical activity in a first-grade classroom.

Twenty-six first graders are sitting on the floor around their teacher, Ms. Jackson. She opens a copy of McCloskey's (1941, 1969) *Make Way for Ducklings* and shows the children a double-page picture of two mallards flying over a pond. Jackson tells them that the birds are mallards, which are a kind of duck, and begins to read.

As the teacher reads, the children's attention, facial expressions, and giggles (for example, when a policeman stops traffic to let the mallards waddle across the road) suggest that they are enjoying the story. Their giggling also provides evidence that they understand the story. Even stronger evidence of their understanding is found in the discussion Jackson initiates. For example, one of the questions she asks is why the mallards didn't want to live next to foxes and turtles. The only information given in the story is that "[Mrs. Mallard] was not going to raise a family where there might be foxes or turtles." The reason is not explained, yet the children are able to infer that Mrs. Mallard doesn't want to live next door to foxes and turtles because they might harm the ducklings.

The discussion also provides evidence that the children have control over some sophisticated language structures. Consider such complicated syntax as "But the people on the boat threw peanuts into the water, so the Mallards followed them all round the pond and got another breakfast, better than the first." When the teacher asks several of the children what that sentence means, none has difficulty capturing the notion that the mallards liked the peanuts more than what they had gotten to eat on their own.

Most children entering school have fairly sophisticated knowledge about language and stories. The children described here had enough knowledge of syntax, vocabulary, story elements, and aspects of the

world around them to comprehend and enjoy *Make Way for Ducklings*. But no story in any first-grade preprimer can match the literary quality and level of language found in *Make Way for Ducklings*. Why? Because the children will be unable to read many words and therefore have no reliable way to translate the written text into their familiar spoken form of language. Until their word recognition skill catches up to their language skill, they are unable to independently read a story that matches the sophistication of their spoken vocabularies, concepts, and knowledge.

There has been much legitimate criticism of the reading materials used in early reading instruction. Although these materials need improvement, it is important to acknowledge that because children can recognize only a limited number of words, even the most creatively developed materials cannot compete with stories such as *Make Way for Ducklings*. Our goal as educators is to quickly provide children with the tools they need to read some of the marvelous stories gifted writers have created for them. The major tools we can give children are ones that allow them to decode printed words for themselves. To facilitate a discussion of the issues associated with helping children gain control of the code that links the printed word to the spoken word, let us first define some terms.

## Defining Reading Terms

Various terms have been used to describe the way children come to recognize printed words. We begin with a discussion intended to sort out a set of easily confused terms: the code, decoding, word attack, word recognition, phonics, and sight words.

One dictionary definition of *code* is "a system of signals used to represent assigned meanings." Signals can be numbers (as in a military code), dots and dashes (Morse code), or letters (as in an alphabetic language like English). In themselves these signals are meaningless. They become meaning-bearing units only when an individual knows what meanings can be

assigned to the signals. When an individual can apply meaning to signals, that person has learned to decode.

In written alphabetic languages such as English, the code involves a system of mappings, or correspondences, between letters and sounds. When an individual has learned those mappings, that person is said to have “broken the code.” Now the individual can apply his or her knowledge of the mappings to figure out plausible pronunciations of printed words. Most of the time, competent adult readers do not need to apply their knowledge of the mappings system consciously to recognize the words they encounter. If they do encounter a word they have never seen before, however, they are able to bring their knowledge of the code to bear in a deliberate and purposeful way. A number of terms are used to describe the application of the code when reading. It may be useful to consider the terms in light of two extremes of attention a reader pays to the code. At one extreme readers apply their knowledge of the code immediately and without any apparent attention. The terms used to describe this immediate phenomenon are *word recognition*, *word identification*, and *sight word recognition*. At the other extreme readers consciously and deliberately apply their knowledge of the mapping system to produce a plausible pronunciation of a word they do not instantly recognize, such as the name of a character an English-speaking reader might encounter in a Russian novel. The term associated with this self-aware “figuring out” is *word attack*.

Individuals involved in either extreme are decoding in that they are using symbols to interpret a unit that bears meaning. Hence, word recognition, word identification, word attack, and sight word recognition are all terms applied to decoding, albeit to decoding with different levels of conscious attention.

Two terms that can be confused are sight word *vocabulary* (sometimes called sight word recognition) and sight word *method*. The former is a critical goal of all reading instruction—that children come to respond to most words at a glance, without conscious attention. This goal should not be confused with the instructional strategy called the sight word method (also known as the whole word or look-say approach), in which words are introduced to children as whole units without analysis

of their subword parts. By repeated exposure to words, especially in meaningful contexts, it is expected that children will learn to read the words without any conscious attention to subword units. Hence, sight word recognition, or the development of a sight word vocabulary, is a goal of sight word instruction.

The issue of instructional strategies brings us to the terms *phonics* and *word attack*. Phonics embraces a variety of instructional strategies for bringing attention to parts of words. The parts can be syllables, phonograms (such as *an*), other letter strings (such as *ple*), or single letters. The goal of phonics is to provide students with the mappings between letters and sounds but, unlike the goal of the sight word method, phonics is not an end point. Rather, phonics merely provides a tool that enables students to “attack” the pronunciation of words that are not recognizable at a glance, hence the term *word attack*.

## The Importance of Early Decoding Skill

Early attainment of decoding skill is important because this early skill accurately predicts later skill in reading comprehension. There is strong and persuasive evidence that children who get off to a slow start rarely become strong readers (Stanovich, 1986). Early learning of the code leads to wider reading habits both in and out of school (Juel, 1988). Wide reading provides opportunities to grow in vocabulary, concepts, and knowledge of how text is written. Children who do not learn to decode do not have this avenue for growth. This phenomenon, in which the “rich get richer” (i.e., the children who learn early to decode continue to improve in reading) and the “poor get poorer” (i.e., children who do not learn to decode early become increasingly distanced from the “rich” in reading ability), has been termed the Matthew effect (Stanovich).

The importance of early decoding skill can be illustrated through the findings of several studies. In a longitudinal study of fifty-four children from first through fourth grades, Juel (1988) found a .88 probability that a child in the bottom quartile on the Iowa Reading Comprehension subtest at the end of first grade will still be a poor reader at the end of fourth grade. Of twenty-four children who remained poor

readers through four grades, only two had average decoding skills. By the end of fourth grade, the poor decoders still had not achieved the level of decoding that the average/good readers had reached by the beginning of second grade. The poor decoders also had read considerably less than the average/good readers, both in and out of school. They had gained little vocabulary compared with the good decoders and expressed a real dislike of both reading and the failure associated with reading in school.

Lesgold and Resnick (1982) found that a child's speed of word recognition in first grade was an excellent predictor of that child's reading comprehension in second grade. In a longitudinal study of children learning to read in Sweden, Lundberg (1984) found a .70 correlation between linguistic awareness of words and phonemes in first grade and reading achievement in sixth grade. Moreover, Lundberg found that of forty-six children with low reading achievement in first grade, forty were still poor readers in sixth grade.

Clay (1979) discusses results of a longitudinal study of children learning to read in New Zealand:

There is an unbounded optimism among teachers that children who are late in starting will indeed catch up. Given time, something will happen! In particular, there is a belief that the intelligent child who fails to learn to read will catch up to his classmates once he has made a start. Do we have any evidence of accelerated progress in late starters? There may be isolated examples which support this hope, but correlations from a follow-up study of 100 children two and three years after school entry lead me to state rather dogmatically that where a child stood in relation to his age-mates at the end of his first year in school was roughly where one would expect to find him at 7:0 or 8:0 (p.13).

## What Helps Children Learn the Code

The studies reported above all point to the importance of arranging conditions so that children gain reading independence early. The task of learning to decode printed words is made easier when the child has certain prerequisite understandings about print. These include

knowing that print is important because it carries a message, that printed words are composed of letters, and that letters correspond to the somewhat distinctive sounds heard in a spoken word. Often these prerequisites develop as a result of a child's having been read to (especially by an adult who has made occasional references to aspects of the print), having attended preschool and kindergarten programs, or having watched instructional television programs like *Sesame Street*. Let us look at these three prerequisites and why children sometimes have difficulty acquiring them.

### Printed Words Carry Messages

First, young children need to know that some systematic relationship exists between printed symbols and spoken messages. They need to know that looking at the print itself is important to determine these messages. This idea is not as obvious as it may first appear. Storybooks contain colorful, enticing pictures designed to capture children's interest and attention. In comparison, the black marks at the bottom of the page are rather uninteresting. Likewise, print in the environment is often embedded in rich contexts that are more noticeable and "readable" than the print itself (e.g., for a child, the color and shape of a stop sign has more meaning than the letters forming the word *stop*).

### Words Are Composed of Letters

Observations of children's first unguided attempts to use print show that they frequently find some distinctive feature of a word that acts as a cue to identify the word for them (Gates & Boeker, 1923; Gough & Hillinger, 1980). Often this distinctive feature will be tied to a picture or a page location (e.g., *police* car is the last string of letters on the page with a picture of a policeman). Or a child will remember distinctive features of a particular word (e.g., *mallard* is a long string of letters with two straight lines in the middle). Initial letters are frequently used as recall cues (for instance, *duck* starts with a *d*). The problem with this approach is that for each additional word it is harder to find a single, distinctive cue (*d* for *duck* will no longer suffice when *deer* is encountered). At this point, reading can become an increasingly frustrating activity unless a better cue system is developed.

Children often try to combine distinctive features of

*continued on next page...*

words (for instance, first letters) with context cues to figure out an unknown word. This hybrid approach is not particularly reliable, however. For example, consider the difficulty a young child would encounter in figuring out an unknown word in the sentence “Mrs. Mallard \_\_\_\_\_ her eight ducklings.” What word fits in the blank? It could be almost any verb. What if the child looked at the first letter (which in this case is *l*), or looked at the first and last letters (*l* and *s*) and approximate length (five letters)? Even with these three feature cues, the words might be *loves*, *likes*, *loses*, or *leads*, to list a few. Learning to look at *all* the letters is important.

### Letters Correspond to the Sounds in Spoken Words

Once children know that words are composed of letters, they need to be able to map, or translate, the printed letters into sounds. In order to do that, children first need to be able to “hear” the sounds in spoken words—that is, to hear the /at/ sound in *cat* and *fat*, for example, and perceive that the difference between the two words lies in the first sound. (In this article slashes // indicate a speech sound.) If children cannot perceive these sound segments, they will encounter difficulty when trying to sound out words, in both reading and writing. This understanding has been termed phonemic awareness.

Phonemic awareness is not a single insight or ability. Rather, there are various phonemic insights, such as being able to rhyme words as in the *cat/fat* example above, or knowing that *fat* has three distinctive, yet overlapping and abstract, sounds. The last insight is particularly difficult because phonemes often overlap in speech (e.g., we begin saying the /a/ sound in *fat* while still uttering the /f/).

Although it is not clear how children gain phonemic awareness, certain activities do appear to foster it. Home factors such as time spent on word play, nursery or Dr. Seuss rhymes, and general exposure to story books appear to contribute to phonemic awareness. In a fifteen-month longitudinal study of British children from age three years, four months, MaClean, Bryant, and Bradley (1987) found a strong relationship between children’s early knowledge of nursery rhymes and the later development of phonemic awareness. In addition, phonemic awareness predicted early reading ability. Both relationships were found after controlling for the

effects of IQ and socioeconomic status.

There is growing evidence that phonemic awareness can be taught to young children and that such teaching can occur in a playful, interactive way. Lundberg, Frost, and Petersen (1988) showed that preschool children can be trained to manipulate the phonological elements in words. Their eight-month training program involved a variety of games, nursery rhymes, and rhymed stories. A typical game designed to foster syllable synthesis included a troll who told children what they would get as presents through a peculiar method of producing the words syllable by syllable. Each child had to synthesize the syllables in order to figure out what the troll was offering. Children who participated in the training showed considerable gains in some phonemic awareness skills—such as phoneme segmentation—compared with children who did not participate in the program. Positive effects of the preschool training were still evident in children’s reading and spelling performance through second grade.

Clay (1979) found that many six-year-olds who were not making adequate progress learning to read could not “hear” the sound sequences in words. She adopted a phonemic awareness training program developed by the Russian psychologist Elkonin (1973) to train these children. Clay found that the children could learn and apply the strategy of analyzing the sound sequence of words. This strategy improved both their reading and their writing.

Unfortunately, many children come to school without phonemic awareness, and some fail to gain it from their school experiences. Juel, Griffith, and Gough (1985) found that well into first grade the spelling errors of many children were not even in the domain of what has come to be known as invented spellings (such as using the sounds captured in letter names to spell *light* as *lt* or *rain* as *ran*). These researchers found that many children entered first grade with little phonemic awareness and had difficulty learning spelling-sound relationships. For example, these children’s misspellings of *rain* used in a sentence included such things as *yes*, *wetn*, *wnishire*, *rur*, and drawings of raindrops. The course of learning the code for these children will be different and more difficult than for children who are able to hear the sounds in spoken words and who know that these sounds can be mapped to letters.

## Instructional Approaches

Given that letters and sounds have systematic relationships in an alphabetic language such as English, it stands to reason that those responsible for teaching initial reading would consider telling beginners directly what those relationships are. Indeed, until about 60 years ago this is what most teachers in the United States did. The techniques used, however, left much to be desired.

### Phonics: The Past

It is important to recognize that phonics is not a single procedure. Under the label phonics can be found a variety of instructional strategies for teaching the relationship between letters and sounds. It appears that the kind of phonics practiced in the first decades of this century was an elaborated “drill and more drill” method. Diederich (1973) describes the scene:

Initial instruction in letter-sound relationships and pronunciation rules was done to death . . . children had to learn so much abstract material by rote before doing any significant amount of reading (p. 7).

To illustrate more concretely what Diederich was describing, picture the following: It is October 1921, and forty first graders are seated at rows of desks. The teacher stands at the front of the class and points with a long wooden pointer to a wall chart that contains columns of letters and letter combinations. As she points to a column of short vowel and consonant *b* combinations, the class responds with the sound of each combination: /ab/, /eb/, /ib/, /ob/, /ub/. She goes to the next column and the class responds, /bab/, /beb/, /bib/, /bob/, /bub/. Then the teacher asks, “What’s the rule?” The children respond in unison, “In a one-syllable word, in which there is a single vowel followed by a consonant. . . .” So it went day after day, with “letter-sound relationships and pronunciation rules . . . done to death.”

It is no wonder that educators as prominent as William S. Gray described this kind of phonics as “heartless drudgery” and urged that it be replaced with what initially was termed the look-say approach and subsequently called the sight word or whole word method. The relief from extended drill with letter sounds, their synthesis into often meaningless syllables, and the

recitation of rules of pronunciation is evident in Diederich’s (1973) own response to the look-say method:

When [this] writer began his graduate study of education in 1928 . . . no less an authority than Walter Dearborn had to send his students to observe several classes that were learning to read by the new “look-say” method before they would believe that it was possible. When prospective teachers like the students of Walter Dearborn discovered what a relatively painless process the teaching of reading could be, using the . . . whole word approach, they were not disposed to demand evidence of superior results. It was enough to know that the new method worked about as well as the old and with far less agony (p.7).

### Look-Say

By the 1930s, the look-say method prevailed. The idea behind this approach was that children could learn to recognize words through repeated exposure without direct attention to subword parts. The existence of ideographic writing systems (like Chinese or Japanese Kanji, which is based on Chinese characters) shows that this type of visual learning can occur, but it is difficult. The characters are learned slowly. A child in Japan is expected to learn only seventy-six Kanji in first grade and 996 by the end of sixth grade. In contrast, many Japanese children enter school already reading Kana, which is based on phonetic segments. Most ideographic writing systems have been (or are in the process of being) replaced by alphabetic ones.

English is not an ideographic written language. To teach it as if it were ignores the systematic relationships between letters and the sounds that underlie them. Proponents of the look-say method have been quick to point out the imperfections of these relationships, which are most apparent in some high frequency words (e.g., *come*, *said*). It should not be overlooked, however, that the pronunciations of even these irregular words do not deviate widely from their spellings. We do not pronounce *come* as *umbrella*, or *said* as *frog*.

The look-say method continued virtually unchallenged until 1955, when Flesch, in his book *Why Johnny Can’t Read*, vehemently attacked the approach and demanded a return to phonics. Although the general

*continued on next page...*

public and press reacted favorably to Flesch's book, it was rejected by reviewers in educational journals—chiefly because it took the form of a propagandistic argument that presented conclusions beyond what research evidence allowed. A decade later, Chall's (1967) *Learning to Read: The Great Debate* provided a reasoned presentation of the research with the conclusion that the evidence points to benefit from those programs that include early and systematic phonics. Subsequent researchers confirmed this advantage (e.g. Barr, 1972, 1974, 1975; DeLawter, 1970; Elder, 1971; Evans & Carr, 1983; Guthrie et al., 1976; Johnson & Baumann, 1984; Resnick, 1979; Williams, 1979).

### Phonics: The Present

Several years ago, the National Commission on Reading comprising a range of representatives from the research community (and sponsored in part by the National Institute of Education), developed a report that synthesized and interpreted the existing body of research on reading. The report, entitled *Becoming a Nation of Readers* (Anderson et al., 1985), observes in its discussion of early reading that “most educators” view phonics instruction as “one of the essential ingredients.” It goes on to note: “Thus, the issue is no longer . . . whether children should be taught phonics. The issues now are specific ones of just how it should be done” (pp. 36-37). Approaches to phonics instruction generally can be described by one of two terms—explicit phonics and implicit phonics, referring to the explicitness with which letter sounds (phonemes) are taught in a given approach.

In explicit phonics, children are directly told the sounds of individual letters (the letter *m* represents the /m/ in *man*). In implicit phonics, children are expected to induce the sounds that correspond to letters from accumulated auditory and visual exposure to words containing those letters (for instance, they would induce /m/ from hearing the teacher read *man*, *make*, and *mother* as she or he points to the words on the chalkboard). In terms of the effectiveness of one approach over the other, *Becoming a Nation of Readers* observes that “available research does not permit a decisive answer, although the trend of the data favors explicit phonics” (p. 42). Let us look more closely at both approaches, beginning with implicit phonics.

As noted above, in implicit phonics the sounds of individual letters are never pronounced in isolation. Instead, the child is expected to induce these sounds from reading words in stories and lists that contain similar spelling-sound patterns. Continuing with the *m* example, a child who encountered the new word *met* and who had seen and heard *man* and *make* would be instructed to think of other words that begin with the letter *m* in order to identify the sound at the beginning of the new word. In order to comply with the instructions, the child needs to be able to identify distinct sounds in spoken words to make a connection between the sound and the target letter. To be able to induce the sound of the letter *m* or the sound of the *et* phonogram, the child must be able to distinguish between the sound of the initial consonant and the rest of the word. This is a difficult task because in speech the sounds of individual letters actually overlap and blend as a word is pronounced. Thus, in actuality, the ability to extract the sound of a letter from a spoken word is more “in the mind” than “in the mouth.”

A problem with implicit phonics is that many children fail to induce the sounds because they are unable to segment a word into distinctive sounds. It takes very sophisticated phonemic awareness to do so. Many children do not come to school with such awareness, yet implicit phonics requires this ability right from the start.

Explicit phonics requires less sophisticated phonemic awareness because the sounds associated with letters are directly provided. Explicit phonics, however, has its own potential problem; the sounds of some consonant letters cannot be said in isolation without adding a schwa, or /uh/ (e.g., the isolated sound of the letter *b* in *but* is distorted to /buh/). Do we harm children by telling them these distortions? Not if instruction in how to blend letter sounds is provided. In reviewing the research associated with this question, Johnson and Baumann (1984) noted that “there is no substance to the long-held belief that pronouncing sounds in isolation is detrimental” (p. 592). Similarly, the commission that developed *Becoming a Nation of Readers* concluded that “isolating the sounds . . . and teaching children to blend the sounds of letters together to try to identify words are useful instructional strategies” (p. 42). Thus, the prevailing conclusion

seems to be that isolating sounds offers an advantage when it is done in moderation and when it includes good blending instruction.

Explicit phonics is helpful because it provides children with the real relationships between letters and sounds, or at least approximations of them. But knowledge of letter-sound relationships is of little value unless the child can use that knowledge to figure out words. Whether children have learned the sounds of letters through implicit or explicit phonics, figuring out a new word still requires that the sounds of the letters be merged or blended.

We will return to the topic of blending in considering instructional issues. First we address another major issue associated with phonics—the relationship between what children learn in phonics and the stories they read.

## Phonics and Reading Materials

We begin this section by recalling that among the serious problems Diederich (1973) pointed to about the way phonics was presented in the past was that “children had to learn so much abstract material [i.e., letter-sound relationships] by rote before doing any significant amount of reading” (p.7). This “abstractness” problem can be eliminated by recognizing that adequate instruction gives students opportunities to apply what they are learning. Children need a lot of early experience reading meaningful material that includes many words that exemplify the sound-spelling patterns being introduced.

Current beginning reading programs tend to fall into two groups: (1) those in which there is a strong relationship between the sound-spelling patterns children are learning in their phonics lessons and the words in the stories they read, and (2) those in which this relationship is weak. To illustrate the differences, *Becoming a Nation of Readers* presented excerpts from two representative programs. Both excerpts came from material that would be read some time in or near November of first grade, when both programs would have introduced about thirty letter-sound relationships. A twenty-six-word passage from the weak-relationship program contained seventeen different words, out of which “only three (or 17 percent) could be decoded

entirely on the basis of letter-sound relationships that [had] been introduced in the program’s phonic lesson” (p. 45). In contrast, out of eighteen different words in the passage from the strong-relationship program, seventeen (or 94 percent) “could be decoded entirely on the basis of letter-sound relationships that students should know from the program’s phonic lessons” (p. 46).

This gap in the percentage of decodable words results from the word selection process for the stories of each program. The first program selected high-frequency words that are likely to be in a young child’s vocabulary. Word choice was not constrained by the letter-sound relationships or letter patterns introduced in the program’s phonics lessons. In the second program, word choice was, to a large extent, constrained by the letter patterns introduced.

These two excerpts reflect the findings of Beck’s (1981) analysis of eight beginning reading programs. The analysis included all the material students would read in the first third of each program. The percentage of decodable words in the four programs that based word selection on the letter-sound relationships introduced in their phonics lessons was 100 percent, 93 percent, 79 percent, and 69 percent, respectively. In contrast, the percentage of decodable words in the programs that selected their words from high-frequency lists was 0 percent for two programs, 3 percent for the third, and 13 percent for the fourth.

Problems arise when the relationship between what children learn in phonics and the stories they read is either too low or too high. When too few of the words are decodable it is questionable whether what is taught in phonics is of any use. On the other hand, when all but one or two of the words in a selection are constrained by the letter sounds introduced, it is virtually impossible to write interesting selections in natural sounding language. This is, in part, a result of exclusion of such high-frequency but irregular words as *said*, *come*, *have*, and *you*. At its extreme, excluding such words and overemphasizing the last few letter sounds introduced results in sentences of the “Dan had a tan can” variety.

Is there an optimal relationship between the letter sounds children are learning in phonics and the words in their readers? Clearly, the answer is no. *Becoming a Nation of Readers* makes the point that establishing a rigid guideline is a poor idea: “What the field of reading

does not need is another index that gets applied rigidly. What the field does need is an understanding of the concepts at work” (p. 47). The concept at work is that a “high proportion of the words in the earliest selections children read should conform to the phonics that they have already been taught.” However, “requiring that, say, 90 percent of the words . . . conform to letter-sound relationships already introduced would destroy the flexibility needed to write interesting, meaningful stories” (p. 47).

The issues we have raised in the last two sections concern instructional strategies for teaching phonics and the relationships between what is learned in phonics and the selections children read. Having raised these issues in terms of existing instructional materials, let us turn to the teacher’s role.

## What Teachers Can Do

It is well established that basal reading programs are the most widely used resources for teaching reading in the elementary school. Although program implementation undoubtedly varies with individual teachers, there is strong evidence that the program teachers use heavily influences their classroom teaching (Diederich, 1973). Hence, we will frame our discussion of what teachers can do in relationship to the kinds of programs in use.

Since the most widely used reading programs employ implicit phonics, this seems to be the most prevalent approach. In implicit phonics, individual sounds are not produced in isolation. However, we would encourage teachers to make the individual sounds available. As teachers told Durkin (1984), who observed them producing sounds in isolation even though their manuals did not recommend it, “Children need to hear the sounds” (p. 740).

Although we recommend making individual sounds explicitly available, we caution against using them in isolation. Specifically, we recommend that teachers start with a word the children already know from oral language, extract the sound from that word, and then place it back into the word. For example, in preparation for learning the sound of the letter *d*, the teacher can draw students’ attention to a word like *duck* from a recent story or use a line from a nursery rhyme, such as “diddle, diddle, dumpling.” Then the teacher should

explain that the first letter of these words, called a *d*, represents the /d/ sound.

This strategy not only overcomes the problem in implicit phonics of requiring children to extract a sound from a spoken word, but is also reduces a potential problem in explicit phonics—the difficulty of saying the sounds of some of the consonant letters in isolation. By starting with strong words, extracting the sounds from those words, and placing the sound right back into words, teachers can avoid the pitfalls of explicit phonics approaches in which a string of isolated letter sounds is accumulated.

As noted earlier, an important issue associated with phonics is blending. *Becoming a Nation of Readers* makes two important points that can be applied to this topic. The first is that blending “is a difficult step for many children. Until a child gets over this hurdle, learning the sound of individual letters . . . will have diminished value” (p.39). The second point is that when children attempt to figure out a word by blending sounds, it is not necessary for them to produce a perfect pronunciation. Rather, they need to be able to “come up with approximate pronunciations—candidates that have to be checked to see whether they match words known from spoken language” (p.38).

We have two suggestions for promoting children’s blending ability. In one the teacher models decoding of unknown words by slowly blending their component letter sounds. A model of blending involves stretching out each component sound until it merges with the next sound and then collapsing the sounds together so the word can be heard more clearly. For example, the teacher could select a new word that will be encountered in an upcoming selection, let’s say *met*, write it on the board, and demonstrate how one might go about sounding it out. She or he would note that the first letter, the *m*, represents the /m/ sound, like at the beginning of *mittens*. Next the teacher would produce /m/ and add the short *e*, first elongating the sounds, /mmee/, then collapsing them, /me/. Then the teacher would add the /t/, at first giving a slightly exaggerated, then a more natural, pronunciation of *met*.

It is not difficult to involve the children in practicing this strategy. For example, the teacher can write a word on the board and tell the children to think of the sound of the first letter and keep saying it until he

*continued on next page...*

Professional Article ■ *The Role of Decoding in Learning to Read*

or she points to the next letter, and keep saying the sound of the two letters until they add on the sound of the last letter.

Resnick and Beck (1976) note that an important feature of blending instruction is merging different sounds successively—that is, /m/, /me/, /met/. Teachers should avoid using sequences in which the merging does not occur until each sound has been produced, such as /m/, /e/, /t/, /met/. Among the reasons that successive blending is preferable is that it avoids the need to keep a string of isolated sounds in memory.

Blending instruction does not have to be tedious. Teachers can choose from a variety of active and fun possibilities. For example, the teacher might give large cardboard letters to some children and start a word by telling the child who has the card that says /m/ to stand up. Then the child whose card makes /m/ say /me/ can go up and stand next to the /m/ child, followed by the /t/ bearer, who can complete the word *met*. The teacher might then ask the child who can make *met* say *bet* to go up and change places with the /m/ child.

This last example brings us to the second instructional strategy that promotes blending. Here children are involved with many opportunities to make words and to experiment with and observe the results of a letter change. A traditional implementation of this strategy involves a variety of letter substitution techniques. For example, the teacher places a phonogram such as *an* on a flannel board and then puts various consonants in front of the pattern, having the children read the resulting words (e.g., *can*, *man*). Or the teacher places the letters *s*, *a*, *t* on a flannel board and after the children read *sat*, she or he changes the vowel so the word reads *sit*, then changes it again to read *set*. This technique can be extended so that children use their own letter cards (which they can make or get from the teacher) to create words by changing letters in all positions—for instance, *sat* to *sit* to *hit* to *hot* to *hop* to *mop* to *map*. By deleting, adding, or substituting letters, more complex sequences, such as *black* to *back* to *tack* to *tick* to *trick*, can be developed.

Building words in this fashion externalizes the blending process. It makes the process readily accessible to children by making it very concrete. Children physically handle the letter cards, attach sounds to them, and manipulate the cards to produce new words.

Now let us turn to instructional issues associated with the relationship between what children are learning in phonics and the words in the stories they read and consider what the teacher can do if the relationship is either too low or too high. First, if the selections do not use words that allow the children to practice what has been taught in phonics, the teacher will need to write or find materials that do.

One teacher developed a way to write stories that incorporated the sound spelling patterns introduced in the program she was using. Essentially, she made “little books” by revising some of the stories in the basal. She started with a selection and inserted new words whose letter-sound relationships had already been taught. She found she was able to develop meaningful stories by adding and deleting various sentences, phrases, and words. Most often, her revised stories were longer than the original ones. Sometimes they were elaborated versions of the original stories, but frequently the deletion and addition of words allowed her to vary the plots of these stories.

The teacher reported that she enjoyed revising the selections, but found it very time consuming. Since all teachers cannot be expected to have the time or knack for making such little books, published materials are needed. Some published children’s stories (such as Dr. Seuss’s *The Cat in the Hat*, *Hop on Pop*, *Fox in Socks*, and *There’s a Wocket in My Pocket*) can be used. If a book contains too many unknown words, the teacher could use it in a shared reading situation in which she reads some of the story to the children and the children read the parts (perhaps from a “Big Book”) that contain the words with learned sound spelling patterns. Other sources of material that may be useful are nursery rhymes (“How now brown cow”) and tongue twisters (“How many cans can a canner can . . .”). In addition, teachers can give children opportunities to write their own tongue twisters.

If the program being followed is too constrained in using only phonics-related words (the “Dan had a tan can” variety), the teacher needs to incorporate into the selections some high-frequency words that have lots of utility for future readings. The teacher also should include words of interest to the children and words that have appeared in the children’s writings. So we might get “Dan had a big can full of tan monsters.” Or the

*continued on next page...*

Professional Article ■ *The Role of Decoding in Learning to Read*

teacher can leave blanks in a story where the children can fill in words: “Dan had a \_\_\_ can full of \_\_\_\_\_. A \_\_\_\_\_ man took the can.” Basically the teacher leaves blanks where adverbs, adjectives, and prepositional phrases could go. The children might copy and illustrate these stories, collecting them into storybooks that can be taken home and read to others. The teacher also can use these types of text in chart stories or Big Books.

Children’s writing can be used to foster phonic skill. For this strategy to work, children must have the prerequisite understandings discussed earlier in the section on phonemic awareness. Bissex (1980) gives an example of how a child who could analyze words into spoken sounds gained knowledge of the code through writing. Bissex’s five-year-old son, Paul, advanced by asking his mother questions concerning letter-sound relationships as he wrote. For example, Paul asked what made the “ch” sound in *teach*, to which his mother responded “c-h” (p.12). Or this dialogue:

Paul:           What makes the “uh” sound?  
 Mother:        In what word?  
 Paul:           Mumps.  
 Mother:        u (p.13).

To ask such questions, Paul had to have rather sophisticated phonemic awareness (for instance, he could segment the /uh/ sound in *mumps*). Likewise, teachers of young children may be able to foster such interaction as they respond to their young students’ questions about how to write the sounds in certain words.

Just as teachers model blending to decode unknown words, they can model how to sound and blend sounds into written words. For example, “If I wanted to write the *met* in a story, I’d first say the word to myself very slowly, /mmeett/. Then I’d think of the letter that makes the /m/ sound at the beginning of *met* and write it [writing the letter *m* on the board]. Then I’d think of what letter needs to be added to make it say /meee/ [adding the letter *e*]. Then I’d think of what letter needs to be added to make it say *met* [adding the letter *t*].” The teacher can encourage children to sound out and write the words in their stories in a similar manner.

As teachers can help children induce the code by repeatedly answering the question “What’s this word?” they can also help them by answering “What letter

stands for this sound in this word?” With either reading or writing, successful induction of the code will depend both on whether the child has the prerequisite understandings (i.e., phonemic awareness) and whether someone is around to answer these questions frequently. The fortunate child who has both of these conditions in place can learn the code even more quickly by being directly informed about the alphabetic code (e.g., through explicit phonics). The child who has little prerequisite knowledge about print and who lacks an informed partner in learning may need to *depend* on systematic and explicit phonics instruction. This child has fewer opportunities to induce the code through exposure to print and is thus more dependent on instruction to lay bare the alphabetic system.

The course of acquiring the code for a child like Paul, who at age five wrote above his workbench DO NAT DSTRB GNYS AT WRK (Bissex, 1980, p.23), will be very different from that of the child who in the middle of first grade is spelling *rain* as *yes* or *wnishire*. Paul already had a good understanding of the alphabetic system and knew a fair amount about the code prior to first grade. He would have learned to read in first grade no matter what the instruction. Many children are not as fortunate as Paul. They depend almost exclusively on the instruction they receive in school to learn to read and write.

We have discussed the extreme importance of learning the code in first grade because early decoding reliably predicts reading comprehension in subsequent grades. Failure to teach the code in the most straightforward manner (e.g., through good, explicit phonics instruction coupled with reasonably constrained texts) would leave many children without the key to unlock the printed message. Children without this key cannot independently enter the world of quality literature; some may learn to dislike reading entirely. Each day that goes by without the child being able to read a book like *Make Way for Ducklings* is a day in which the knowledge and joy that can come from such reading are lost.

## References

- Anderson, R.C., Hiebert, E.H., Scott, J.A., & Wilkinson, I.A.G. (1985). "Becoming a Nation of Readers: The Report of the Commission on Reading." Washington, DC: National Institute of Education.
- Barr, R. (1972). "The Influence of Instructional Conditions on Word Recognition Errors." *Reading Research Quarterly*, 7, 509-529.
- Barr, R. (1974). "Influence of Instruction on Early Reading." *Interchange*, 5(4), 13-21.
- Barr, R. (1975). "The Effect of Instruction on Pupil Reading Strategies." *Reading Research Quarterly*, 4, 555-582.
- Beck, I.L. (1981). "Reading Problems and Instructional Practices." In G.E. MacKinnon & T.G. Waller (Eds.), *Reading Research: Advances in Theory and Practice* (vol. 2, pp. 53-95). New York: Academic.
- Bissix, G.L. (1980). *GNYS AT WRK: A Child Learns to Read and Write*. Cambridge, MA: Harvard University Press.
- Chall, J.S. (1967). *Learning to Read: The Great Debate*. New York: McGraw-Hill.
- Clay, M.M. (1979). *Reading: The Patterning of Complex Behavior*. Portsmouth, NH: Heinemann.
- DeLawter, J. (1970). "Oral Reading Errors of Second Grade Children Exposed to Two Different Reading Approaches." Unpublished doctoral dissertation. Teachers College, Columbia University, New York.
- Diederich, P.B. (1973). "Research 1960-1970 on Methods and Materials in Reading" (TM Report 22), Princeton, NJ: Educational Testing Service.
- Durkin, D. (1984). "Is There a Match Between What Elementary Teachers Do and What Basal Reader Manuals Recommend?" *The Reading Teacher*, 37, 734-744.
- Elder, R.D. (1971). "Oral Reading Achievement of Scottish and American Children." *Elementary School Journal*, 71, 216-230.
- Elkonin, D.B. (1973). "U.S.S.R". In J. Downing (Ed.), *Comparative Reading* (pp. 551-579). New York: Macmillan.
- Evans, M.A., & Carr, T.H. (1983). "Curricular Emphasis and Reading Development: Focus on Language or Focus on Script." Symposium conducted at the Biennial Meeting of the Society for Research on Child Development, Detroit, MI.
- Flesch, R. (1955). *Why Johnny Can't Read*. New York: Harper & Row.
- Gates, A.I., & Boeker, E. (1923). "A Study of Initial Stages in Reading by Preschool Children." *Teachers College Record*, 24, 469-488.
- Gough, P.B., & Hillinger, M.L. (1980). "Learning to Read: An Un-Natural Act." *Bulletin of the Orton Society*, 30, 179-196.
- Guthrie, J.T., Samuels, S.J., Martuza, V., Seifert, M., Tyler, S.J., & Edwall, G.A. (1976). "A Study of the Focus and Nature of Reading Problems in the Elementary School." Washington, D.C: National Institute of Education.
- Johnson, D.D., & Baumann, J.E. (1984). "Word Identification." In P.D. Pearson (Ed). *Handbook of Reading Research* (pp. 583-608). White Plains, NY: Longman.
- Juel, C. (1988). "Learning to Read and Write: A Longitudinal Study of Fifty-Four Children from First Through Fourth Grade." *Journal of Educational Psychology*, 80, 437-447.
- Juel, C., Griffith, P.L., & Gough, P.B. (1985). "Reading and Spelling Strategies of First Grade Children." In J.A. Niles & R. Lalik (Eds.), *Issues in Literacy: A Research Perspective* (pp. 306-309). Rochester, NY: National Reading Conference.
- Lesgold, A.M., & Resnick, L.B. (1982). "How Reading Disabilities Develop: Perspectives from a Longitudinal Study." In J.P. Das, R. Mulcahy, & A.E. Wall (Eds.), *Theory and Research in Learning Disability*. New York: Plenum.

continued on next page...

## References

- Lundberg, I. (1984, August). "Learning to Read." *School Research Newsletter*, Sweden: National Board of Education.
- Lundberg, I., Frost, J., & Petersen, O. (1988). "Effects of an Extensive Program for Stimulating Phonological Awareness in Preschool Children." *Reading Research Quarterly*, 23, 263-284.
- Maclean, M., Bryant, P., & Bradley, L. (1987). "Rhymes, Nursery Rhymes, and Reading in Early Childhood." *Merrill-Palmer Quarterly*, 33, 255-281.
- McCloskey, R. (1941/1969). *Make Way for Ducklings*. New York: Viking.
- Resnick, L.B. (1979). "Theories and Prescriptions for Early Reading Instruction." In L.B. Resnick & P.A. Weaver (Eds.), *Theory and Practice of Early Reading* (vol. 2, pp. 321-338). Hillsdale, NJ: Erlbaum.
- Resnick, L., & Beck, I.L. (1976). "Designing Instruction in Reading: Interaction of Theory and Practice." In J.T. Guthrie (Ed.), *Aspects of Reading Acquisition*. Baltimore, MD: Johns Hopkins University Press.
- Stanovich, K.E. (1986). "Matthew Effects in Reading: Some Consequences of Individual Differences in the Acquisition of Literacy." *Reading Research Quarterly*, 21, 360-406.
- Williams, J.P. (1984). "Reading Instruction Today." *American Psychologist*, 34, 917-922.