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On Reading Books to Children
Parents and Teachers

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What Do We Expect Storybook Reading to Do? How Storybook Reading Impacts Word Recognition

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In *Becoming a Nation of Readers*, a report sponsored by the National Research Council, authors Anderson, Hiebert, Wilkinson, and Scott (1985) claimed that "the single most important activity for building the knowledge required for eventual success in reading is reading aloud to children" (p. 23). By reading to children, they mean a teacher or parent sitting down with a child or a group of children to read a book.

Anderson et al.'s (1985) conclusion was based on an extensive review of literature and a bit of hyperbole. The research on the relationship of parents' reading to children's literacy was based largely on correlation data. Strong correlations do not necessarily imply causality; the correlations could be due to factors such as parents' education, household income, "literacy press," or a general household emphasis on literacy learning and other factors which might influence both the amount of reading that parents do with their children and the children's reading achievement. The purpose of this chapter is to explore the relations between storybook reading and reading, stressing the relationships between teachers' and parents' storybook reading and the child's developing word recognition abilities.

A CONSERVATIVE VIEW OF THE RELATION BETWEEN STORYBOOK READING AND LITERACY

Many of the studies cited by Anderson et al. (1985) were surveys. Such surveys will inherently inflate the amount of reading reported, because reading to children is socially desirable. The relationships are much smaller in observational studies, where surveys are supplemented by on-site observers.

Barr and Dreben (Barr, 1983), Meyer, Stahl, Wardrop, and Linn (1994), and Stallings and Kaskowitz (1974) all used observational data and compared actual observations of adults' (parents' and teachers') reading to children and children's later achievement. In all three studies, the correlations were non-significant and sometimes negative. In Meyer et al.'s study, the correlations between teachers reading to children and reading achievement varied in kindergarten from $-.48$ (using the Wide Reading Achievement Test, or WRAT, as a criterion) to $-.19$ (using the Chicago Reading Test, a measure of decoding skill). Positive correlations were found only on the CIRCUS Listening Test, a measure of language comprehension, and not on the reading measures. In first grade, the correlations were closer to zero, ranging from $.02$ on the WRAT to $.07$ on the Woodcock Reading Mastery Test comprehension subtest. Reports of parents reading to children were positive, but lower than expected, ranging from 0.11 to 0.18 . This suggests that only about 5% of the variance in children's achievement is associated with parents reading to them. Correlations were considerably higher (in fact, double on nearly all measures) between parents' ratings of children's participation in reading and their achievement.

Although this correlation seems low, given the weight of expectations that storybook reading supports reading achievement, the result is in the same neighborhood as findings from two meta-analyses of the effects of storybook reading on reading achievement. Bus, van IJzendoorn, and Pellegrini (1995) and Scarborough and Dobrich (1994) both found that the amount of reading that parents did to their children accounted for approximately 8% of the variance in reading achievement in kindergarten or first grade. Whether this is a lot or a little depends on one's perspective. Factors such as SES or mother's education level account for more variance (Bloom, 1976), but these characteristics are more difficult to modify. Either way, the reality of storybook reading does not seem to live up to the extravagant promises of *Becoming a Nation of Readers*.

A SIMPLE VIEW OF READING

One model that might be useful for understanding the effects of storybook reading on children's reading achievement is the "Simple View" of reading. Gough and Tunmer (1986) proposed that reading comprehension could be explained

through two factors—Decoding (D) and Language Comprehension (C)—in a simple equation $RC = D \times C$. In this equation, as a person's ability to decode words drops toward zero, then reading comprehension will also drop toward zero, regardless of the child's language comprehension. If a person's language comprehension drops to zero (as when one is reading a regularly spelled language that one does not understand) then reading comprehension also drops toward zero. Several authors (Carver, 1993; Hoover & Gough, 1990) have generally validated this model. In these validations, the two factors were highly potent: The individual terms accounted for so much variance that there was little left to be explained by the interaction term.

The simple view suggests that there are two, non-intersecting factors in reading comprehension. Storybook reading might have an effect on language comprehension, word recognition, or both. The effects of storybook reading on children's language comprehension are well documented by the other chapters in this volume. The effects on the development of word recognition and other print-related skills are less clear.

WHY WOULD ONE EXPECT STORYBOOK READING TO IMPROVE READING ACHIEVEMENT?

The assumptions underlying the recommendation of *Becoming a Nation of Readers* and others are, wittingly or unwittingly, based on a particular view of the reading process. In this view, children learn to recognize words through exposure, which in turn is achieved through repeated interactions around storybooks. (I use the term *storybook* because narrative fiction is the genre most commonly read to children. Non-fiction is also read to children both in school and at home, as are other genres of text, including alphabet books.) The theory, whether explicit or implicit, seems to be that at least some children will listen to a storybook repeatedly, since children usually request favorite storybooks. They will then try to "read" the book by themselves. At first, the child will make up a story based on the pictures (e.g., Sulzby, 1985). However, with repeated exposure to the story, the child will come to recognize that the words contain the story and will begin to concentrate on the text. As the child becomes better at using the information contained in print, the story re-enactments will get closer to the written text. Sulzby (1985) has documented a progression through a series of stages of emergent text reading, from lack of reliance on the text to nearly accurate text reading (see Sulzby's Fig. 1).

In Sulzby's (1985) model, children's initial attempts at "reading" a storybook are governed by the pictures, not the print. These initial picture-governed at-

tempts involve labeling and commenting on the pictures, without a coherent story. At this stage the child sees each page as a unique entity, disconnected from the other pages. As children develop, they begin to see that written "stories" are similar to those told orally; written language register (Purcell-Gates, McIntyre, & Freppon, 1995) only comes later. According to Sulzby's model, children do not attend directly to the print until relatively late in the process. At first their attention to the print reveals itself in a refusal to read. As Biemiller (1970) found, children will refuse to read once they realize that the print contains the story and that they do not know how to unlock that story because they cannot recognize the words. As they learn about print, they use more and more cues in the text to recognize words, following a developmental path like that proposed by Ehri (1998).

Text reading, in this emergent perspective, can evolve through interactions with adults or knowledgeable others, or through interventions such as fingerpointing during reading, or parents cueing the child to look at the print. But text reading may also emerge through the sheer volume of parents' reading to children. Adams (1990) calculated that she spent at least 1,000 hours reading to her son John prior to first grade, with an additional 1,000 hours spent on literacy-related activities, such as playing with magnetic letters or watching *Sesame Street*. Contrasted to 180 hours of small-group reading instruction in first grade (assuming an hour of such instruction per day), the amount that is learned in each of Adams' 1,000 hours of parent-child reading can be less efficient than each hour of school-based reading and still be quite effective. Indeed, for precocious readers, this process of learning through exposure seems quite sufficient (Durkin, 1966).

Precocious readers, however, are a very small percentage of the population, perhaps less than 1% (e.g., Neuman, 2000). For most children, the exposure model breaks down at two critical junctures. First, children need additional knowledge—most specifically phonemic awareness—to take advantage of exposure to text. Second, most children also need some guidance in reading text, which they obtain through interactions with an adult. Such interactions are rare.

One explanation for the low correlations between storybook reading and achievement in the early grades may lie in the choice of measures used to assess reading in the early grades. In the Meyer et al. (1994) study, reading was assessed using the Wide Reading Achievement Test (a measure of reading isolated words), the Chicago Reading Test (a criterion-referenced measure of decoding), and several standardized group measures, such as the Stanford test. The WRAT and Chicago assessments are measures of isolated word reading; the other, group-administered measures tend to weight word recognition

heavily in the early grades. Consequently, what was measured was largely print knowledge.

Thus, it is possible that the low correlations between storybook reading, either by parents or teachers, and achievement may be explained by the fact that storybook reading does not affect children's word recognition. In contrast, storybook reading *does* exert demonstrated effects on children's listening comprehension abilities. This has been shown not only by the Meyer et al. study, but by numerous other studies as well. Children clearly learn word meanings by listening to stories (see de Temple & Snow, this volume), but they also may develop syntactic knowledge (Chomsky, 1972) and general language comprehension (Stanovich, 1998) through exposure to the text in stories.

These low correlations do not mean that it is not possible for storybook reading to affect word recognition, only that it typically does not. The next section reviews a developmental model of word recognition in order to suggest points in the developmental process where storybook reading *could* actually impact word recognition, and then suggests ways of using storybooks to do so.

HOW DOES WORD RECOGNITION DEVELOP?

A number of different developmental models have emerged to describe the growth of different components of early reading. A survey of these models reveals some similarities. Storybook reading has a crucial but developmentally limited role in this process. Because its effects are seen at several critical phases in the growth of word recognition and are relatively circumscribed, global measures of storybook reading are likely to find only relatively small effects on reading.

Growth of Word Recognition

Ehri (1998) described the growth of children's knowledge of words through four qualitatively different phases. At first, children recognize words through distinctive visual features, such as the "tail" in *monkey*, or the two "eyes" in *look*. Ehri (1992) called this stage "visual cue reading." Gough, Juel, and Griffith (1992) described a study in which a group of pre-readers learned a series of flashcards, one of which had a thumbprint in the corner. When given the cards again, this time with the thumbprint on a different card, they tended to misread the thumbprinted card as the one from the first set, suggesting that they were attending to the thumbprint rather than the letters.

As children learn more words, this purely visual system of identification becomes unwieldy (Treiman & Baron, 1983). Once they develop rudimentary

phonemic awareness, they begin to use salient letters to identify words. They usually begin this process with the initial letters of words, but sometimes use other letters as cues as well. Ehri called this *phonemic cue reading* or *partial alphabetic coding* (1992, 1998).

As their written vocabulary increases, children need to further analyze words; they therefore need to examine more parts of each word in order to identify it. This leads to *full alphabetic coding*, in which the child examines each letter of a word. This skill may come with instruction in decoding, or children may develop it on their own. Letter-by-letter decoding in turn gives way, with practice, to consolidated word recognition, in which a reader uses groups of letters, either as chunks or through analogies, to recognize words automatically, as proficient readers do (Chall, 1996; LaBerge & Samuels, 1974).

This development does not occur in a vacuum, but rather in conjunction with growth in phonemic awareness and exposure to text of different types. Phonemic awareness is a part of phonological awareness, which "refers to a broad class of skills that involve attending to, thinking about, and intentionally manipulating the phonological aspects of spoken language" (Scarborough & Brady, 2001, p. 25). Phonemic awareness is that part of phonological awareness which deals with phonemes, rather than syllables or onsets and rimes. My colleagues and I (Stahl & McKenna, 2000; Stahl & Murray, 1998) have suggested that phonological awareness develops from an awareness of syllables, onsets, and rimes into an awareness of initial phonemes, then final phonemes, and lastly vowels.

Although phonemic awareness is related to reading, especially the decoding aspects of reading, the relationship does not seem to be strictly causal. Instead, it appears to be reciprocal, with simple phonemic awareness being necessary (although probably not sufficient) for children to develop rudimentary word recognition skills. After that point, growth in word recognition seems to enable further analysis of spoken words, which in turn enables further ability to decode more complex words (Beach, 1992; Perfetti, Beck, Bell, & Hughes, 1987).

The Development of Spelling

Children pass through a similar set of stages with respect to invented spelling. A number of different scales have captured this development (e.g., Bear, Invernizzi, Templeton, & Johnston, 2000; Gillet & Temple, 1990; Zutell & Rasinski, 1989). Many of these scales concentrate on early emergent spellings. Bear et al., for example, provided a 15-point scale, ranging from pre-alphabetic

spellings to sophisticated knowledge of the morphemic structure of derived words.

Initially, a child may spell a word by drawing a picture or scribbling something that looks like writing (Harste, Burke, & Woodward, 1982). As children learn that words are composed of letters, they may use random letters to represent words. Bear et al. (2000) termed this phenomenon *pre-phonemic spelling*. At this point, the writers themselves are the only ones who can decode what they have written.

As children begin to think about sounds in words, their spelling may evolve to represent only one sound in a word—usually an initial sound, and occasionally a final sound. This is called *early letter name spelling*. Sometimes they will represent a word with a single letter or pair of letters, but more often signal a word by using the correct initial letter followed by a random string of letters. For example, one child in our reading clinic wrote *fish* with an initial 'f' followed by six other letters, explaining that "f words have a lot of letters in them." As children analyze words further, they may use the names of letters to represent sounds. At this stage, they may represent all of the consonants in a word, albeit often without vowels. For example, they might spell *girl* as "GRL" or *ten* as "TN." As Treiman (1993) pointed out, children use some letter names, but not others, to represent syllables. This phase seems to represent the beginning stage of their analysis of words into phonemes, usually consonants.

As children learn more about how words are spelled they begin to use vowels, and the words they write begin to more closely resemble the actual words they mean, as in the use of "DRAGUN" for *dragon*. Mastery of short vowels usually comes first, followed by long vowel patterns. This pattern may reflect the sequence of instruction, or may be the result of a tendency to favor simpler short vowel codings. Bear et al. (2000) referred to this stage as *letter name spelling*. When a child can consistently spell short vowels, but not yet long vowels, Bear et al. (2000) termed their spelling *within word pattern spelling*. The Bear scale continues beyond this point, but the present discussion is limited to the stages appropriate for exploration of the effects of storybook reading.

Stahl, McKenna, Gatliff, and Hagood (1998) and Stahl, McKenna, and Kovach (in press) found that spelling growth tends to follow growth in word recognition, as might be expected, because spelling is a production task and word recognition is a recognition task. But spelling growth has been used by a number of researchers as a way of assessing growth in children's knowledge of the alphabetic principle (e.g., Morris, 1993).

THE ROLE OF THE ALPHABET

A sketch of the developmental sequence for the growth of phonemic awareness, word recognition, and spelling might begin with knowledge of the alphabet—an important predictor of children's success in reading (Adams, 1990; Chall, 1967). Although children do not need to know every letter of the alphabet in order to learn to read, knowledge of the alphabet supports growth in word recognition, spelling, and phonemic awareness.

The effects of alphabet knowledge on spelling and word recognition should be obvious; however, the effects of alphabet knowledge on phonemic awareness are no less important. Stahl and Murray (1994) found that nearly all children who could segment an initial phoneme could also name at least 50 upper- and lowercase letters. No child who had not mastered the alphabet could segment an initial phoneme. This suggests that knowledge of the alphabet is necessary, although not sufficient, for children to segment initial consonants. Letters of the alphabet contain the phoneme they represent, and the majority contain it in the initial position (e.g., t, d, v, z). Worden and Boettcher (1990) found a developmental sequence for the recitation of the alphabet (usually the ABC song), the naming of individual letters, the printing of those letters, and the identification of letter sounds.

Treiman, Tincoff, Rodriguez, Mouzaki, and Francis (1998) found that children learn letter-sound information more easily if the represented consonant is found in the initial position of the letter name, suggesting that letter name knowledge seems to lead to letter sound knowledge. This was true regardless of whether the consonant was a sonorant or an obstruent, a stop or a continuant. Letter name knowledge may also mediate letter sound knowledge through exposure to alphabet books, as is discussed next.

Alphabet Books

The relationship between letter name knowledge and phonemic awareness may be mediated by exposure to alphabet books. Children who are read alphabet books may develop the insight that one can think about words as containing sounds. In closely observing children as they were read alphabet books, Yaden, Smolkin, and MacGillivray (1993) found that at first children could not make sense of why "M" might stand for "mouse." Through interaction with their parents, the children began with the assumption that there was an arbitrary association between the letter and the picture. For example:

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Father: What letter is that [pointing to the O]?

Miriam: P, P. [Looking at the P on the facing page]

Father: What's this one? Let's just do this one. What is this? [Still pointing to O]

Miriam: P for pig! [Still looking at the P]

Father: That's right. It is P for pig, and that says pig. It's also for playful.

Miriam: And O is for mouse.

Father: That's not—mouse doesn't start with an O. That's an opossum.

Miriam: Possum, him looks like a mouse. (Yaden et al., 1993, p. 52)

At this point, Miriam has not yet grasped the alphabetic principle that letters can stand for sounds. Nor does she seem to see words as being decomposable into sounds. Her father is trying to provide that teaching by helping his daughter make sense of the book itself.

In their observations of two young children, Yaden et al. only observed the beginnings of abstract thought. Smolkin, Yaden, Brown, and Hofius (1992) found that alphabet books elicited significantly more print-related responses from children in one-on-one readings. This suggests that children attend to the print during these readings. Each book was read three times. For the alphabet books, the number of print-related responses increased with each reading, a pattern not found in most of the other picture books. (Children's print-oriented responses did increase with each reading of a predictable book, however. Such books are discussed later in this chapter.)

Van Kleeck (1998), observing storybook reading sessions of 2-, 3-, and 4-year-old children with their mothers, found that alphabet books were the only genre that elicited any maternal utterances related to the form of words. The number of form-related utterances increased with age. For 2-year-olds, mothers tended to treat alphabet books as a form of expository text. For 3- and 4-year-olds, the majority of maternal utterances focused on the letters. Van Kleeck replicated this basic finding with an observational study of children 3½ to 4 years old.

In alphabet books, print-related responses lead to greater awareness of print. Alphabet books have competing purposes: The child's purpose is to engage the story; the parents' purpose is to teach the alphabetic principle. These purposes are not mutually exclusive, however, and it seems clear that children do gain alphabetic insight through interactions with alphabet books.

In an experimental study, Murray, Stahl, and Ivey (1996) found that reading alphabet books to young children significantly improved their phonemic aware-

ness. Working with a group of at-risk 4-year-olds, they compared the effects of reading three types of books to children for 10 minutes per day for 6 weeks. One class was read conventional alphabet books with a "B is for bear" structure, such as *Dr. Seuss' ABC* (Seuss, 1960). A second class was read books that contained the alphabet, but did not stress the sound values of letters, such as *Chicka Chicka Boom Boom* (Martin, 1989). In this book, the letters are recounted in order ("A told B and B told C/Meet me on top of the coconut tree"), but the book tells a story rather than identifying the sounds associated with the letters. A third class was read quality children's stories, which were brought into the class for this study. The class receiving the alphabet books with sound values made significantly greater progress on a measure of phonemic awareness.

This study, although fairly modest, indicates some causal link between alphabet book reading and phonemic awareness. Although alphabet knowledge surely influences children's recognition of words (see Adams, 1990, for a review), it also affects their awareness of phonemes. This effect is evident first with letters whose names begin with the phonemes that they represent (*b, c, t, etc.*) and later with consonants whose names end with that phoneme (*m, n, l*). As children learn about the relationship between letters and sounds, even in a rudimentary way, they can use this knowledge to identify words. This beginning letter-sound knowledge is the hallmark of Ehri's "partial alphabet cueing" phase, in which children use initial consonants as cues to identify words.

Although children may learn about the alphabet from a number of different sources, alphabet books seem to play an important role in the development of knowledge of written words. The studies supporting this premise have all been small in scale, however, and are thus far not definitive.

THE CRUCIAL ROLE OF FINGERPOINTING

Fingerpointing, also termed "concept of print in text" (Morris, 1993), is one of the most obvious interactions between storybook reading and word recognition development. Children differ in their ability to accurately point to words as they are being read—a skill known as print-to-speech match (Clay, 1991). This skill seems to be related to children's ability to use initial (and possibly final) letter cues to recognize words. Morris (1993), measuring phonemic awareness through invented spelling, found that children who could provide an initial phoneme in their invented spellings—what Bear et al. (2000) called "early letter name spellers"—were better able to fingerpoint than children who could not provide the initial phoneme. Ehri and Sweet (1991), using a segmentation task as their measure of phonemic awareness, found that children who could seg-

ment were also better able to fingerpoint. Uhry (1999), in turn, found that letter identification, as well as the use of final consonants in spelling, also contributed to children's fingerpointing ability.

Morris (1993) observed kindergarten children every 2 months over the kindergarten year. He found that for roughly 90% of the children in the study, the ability to segment beginning consonants preceded the ability to fingerpoint. Fingerpointing ability, in turn, preceded full segmentation, which itself preceded the ability to recognize words in isolation. Ehri and Chun (1991, cited in Uhry, 1999) found that training in letter sound knowledge also facilitated fingerpoint reading.

The ability to track print seems to be the nexus of storybook reading, alphabet knowledge, phonemic awareness, and the development of word recognition. Once children have mastered the alphabet and developed an awareness of initial sounds, then they can use initial consonants to identify words, both in isolation and in context. These identifications lead to further analysis of words, and eventually to full segmentation and alphabetic decoding.

It is unclear whether children's ability to fingerpoint is a result of word identification growth or whether it can develop independently. Using a multiple baseline design, Pierce (2000) modeled fingerpoint reading for three children and found that the modeling led to more accurate fingerpoint reading. This modeling was done individually: It is unclear whether the same practice would be effective in groups, as proposed by some (e.g., Holdaway, 1979), or whether it would be effective when a child is not developmentally ready.

Predictable Books

Many authors have suggested that emergent reading might begin with predictable books (e.g., Holdaway, 1979). Predictable or patterned books contain a repeated linguistic pattern that children can use to support their reading. An example would be "Brown bear, brown bear, what do you see? / I see a redbird looking at me / Red bird, red bird, what do you see?" and so on (Martin, 1983). Such books usually carry the pattern throughout, until it is finally broken at the end. Patterns can be more or less complex, and the books' predictability can come from text placement, the amount of support given by the pictures, or the familiarity of the content, as well as from linguistic patterns (Peterson, 1991).

Educators such as Holdaway suggest that predictable books allow children to concentrate on the words, using the text as a support. These books are typically read to the child in shared reading situations. As the book is re-read, children are expected to take more of the responsibility for reading onto themselves.

Such books are read for the purpose of learning to read more accurately, rather than for enjoyment of a story. Although they are more clearly intended for instruction than for pleasure, the actual reading exchange between adult and child is similar to that seen with conventional storybooks.

Smolkin et al. (1992) did find that children made a large number of print-oriented comments when reading predictable books, and that the number of such comments increased with multiple readings. This suggests that, at least for the given book, children were concentrating on the text. However, the results from word-learning studies are not as clear. Bridge, Winograd, and Haley (1983) found that first graders could learn sight words from predictable books more efficiently than from pre-primers. Their study, however, involved not only repeated readings of the predictable books, but also the use of word cards to isolate words from the text. Bridge and Burton (1982), who studied kindergartners without using word cards, failed to find significant word learning from predictable texts. Johnston (1998) examined first graders' word learning from predictable books and found significantly more word learning from the use of predictable books in combination with a word bank, than from re-reading by itself. McKenna, Stahl, Duffy, and Vancil (1996) found in one study that children learned more words from a book that was not patterned than from a book with a strong linguistic pattern. In another study, however, using more elaborate instruction, they failed to replicate that finding (Duffy, McKenna, Stratton, & Stahl, 1996).

One reason for this inconsistency may be that books cannot be easily divided into predictable and non-predictable types, but instead vary along a continuum of predictability (Peterson, 1991). Relatively predictable books may have a single, simple pattern, in which the words are well-supported by pictures. As children become more proficient, they can read books with multiple and more complex patterns, whose content is not supported by the pictures and may be out of the child's experience. As children use increasingly less predictable books, they need to concentrate more on the text. In Reading Recovery, this move from attention to the pattern to attention to the print is gradual (Clay, 1991). Even the most highly patterned texts eventually break their pattern, usually at the book's end. This break forces the child to attend to the print, at least for the duration of a single word. For example, in *Brown Bear, Brown Bear* (Martin, 1983), the pattern goes "[color] [animal], [color] [animal], what do you see? / I see a [new color] [new animal] looking at me," until the end, at which point it first changes to "Teacher, teacher what do you see? / I see children looking at me." Then the text lists all the animals that the children have seen, thus recapitulating the story. This simple break is signaled by the pictures

and usually causes minimal disruption. However, Reading Recovery teachers suggest that such breaks do require children to concentrate more on print information, leading to development in word recognition (Stahl, Stahl, & McKenna, 1999).

Predictable books may have a small but important effect on word learning. Children may use the patterns to support their memorization of text. For the most part, memorization may draw attention away from the print, especially for younger children. The exception to this tendency is the break in the pattern, which requires children to return their attention to the print. As children gain in reading proficiency, the books they read should be less and less predictable, forcing them to attend more closely to the print throughout.

The print cue used in early, highly patterned books is usually an initial consonant. It is rare to see a pattern break cued by a medial vowel or final consonant. Thus, highly predictable books may be most appropriate at the stage when children are moving from visual cue reading to partial alphabetic coding. As they become more proficient in word recognition, they will benefit more from less-predictable texts (see Table 16.1).

INTERSECTIONS BETWEEN DEVELOPMENTAL SEQUENCES

I have, in this chapter, discussed developmental sequences for four aspects of early reading: storybook retelling, knowledge of the alphabet, word recognition, and spelling. There seem to be two points of intersection among these aspects. The first is the concept of the consonant. In storybook reading, recognition of this concept occurs at the break between picture-governed reading and print-governed reading, and is signaled by the beginning of accurate fingerpointing. In word recognition, it occurs when children move from visual cue reading to partial alphabetic coding, at which point they begin to use some phonemic information to match print to speech. I propose that the process of learning about consonants begins with learning the letters of the alphabet, possibly with the aid of alphabet books. From their knowledge of the letters of the alphabet, and the ways in which those letters relate to words, the children develop the rudimentary phonemic awareness needed to enter the world of print. Once a child is tracking print, this awareness is refined through shared storybook reading.

The second important intersection is the concept of the vowel. Given that consonants are folded into vowels in speech, and that vowels are not a universal feature of orthography (indeed, only alphabetic languages use them [Gleitman

TABLE 16.1
Developmental Trajectories of Various Aspects of Early Reading

Storybook Reading	Alphabet Knowledge	Word Recognition	Spelling
Picture governed—no story formed			
Picture governed—story formed (oral convention)		Pre-alphabetic—pictures	
Picture governed—story formed (written language conventions)	Knows ABC song		Pre-alphabetic—scribbles
	Can identify letters		
	Fingerpoints	Visual cue reading	Pre-alphabetic—random letters
Print-governed—refusal to read (not knowing written words)	Knows letter sounds	Phonetic cue reading	Early letter name (initial letters)
Print-governed—aspectual	Knows many words	Phonetic cue reading	Early letter name (initial and final letters)
Letter name			
Print-governed—strategic		Full alphabetic coding	Within word
Independent reading		Automaticity of word reading	Within word (and later stages)

& Rozin, 1977)), vowels are the last phonemes of which children usually become aware (Lieberman, Shankweiler, Fischer, & Carter, 1974). As a consequence, children understandably have the greatest difficulty reading and spelling vowels (e.g., Shankweiler & Liberman, 1972).

The concept of the consonant seems to be phonological; but in children's word recognition and spelling the vowel concept may come from print, since vowels are difficult to conceptualize phonologically. Thus, vowel concepts may come from children's joint reading of storybooks. As children make their own attempts at reading and writing text, they need to attend to more parts of the word, especially the medial vowels. Much of this learning comes from instruction, but some of it comes from interaction with storybooks.

WHY THE LOW CORRELATIONS BETWEEN STORYBOOK READING AND READING SKILL?

Revisiting the question that began this chapter, I propose that storybook reading plays a small but crucial role in developing children's word recognition skills. This small role may be expressed in small correlations, especially with measures of word recognition.

Two special genres of text—alphabet books and patterned texts—have particular roles to play in children's learning about print. As pointed out earlier, alphabet books may lead children to the realizations that letters represent sounds, and that words can be thought of as collections of sounds—the beginning of both the alphabetic principle and phonemic awareness. Patterned books can also play a role at this juncture, once children begin to use initial consonant cues to aid in word recognition.

The effects of conventional storybooks are likely to be more diffuse. Studies show that neither parents nor teachers generally emphasize print while reading (e.g., Dickinson & Tabors, 2001). Although fingerpointing has been discussed in the professional literature, it is unclear how much either parents or teachers model it in practice. Instead, adults tend to stress the story. Some parents and teachers do augment the story with discussions of word meanings (see the chapters by de Temple and Snow, and Reese, both in this volume). But few use storybook reading time as a venue for teaching about the construction of words. Children, for their part, also tend to focus on the story rather than the words during storybook reading time, even with alphabet books (e.g., Yaden et al., 1993).

With the exception of books especially constructed or chosen for learning about print, such as predictable books or basal reader stories, the vocabulary of children's storybooks is too diverse, and too rarely repeated (Hoffman et al.,

1994), to help children learn words effectively. Hayes and Ahrens (1988) found that the density of "rare" words in children's books—a measure of vocabulary difficulty—was greater in children's storybooks than in conversations between two college-educated adults or in "educational" television shows. Storybooks also tend to contain more complex syntactic structures than are usually heard in everyday speech, even among college-educated adults (Chomsky, 1972).

Word recognition growth, however, seems to be aided by repetition (Chall, 1967; Hiebert, 1998). Thus, conventional storybooks may be a wonderful source for language development, in terms of both vocabulary and syntax; but the same characteristics that make them useful for oral language development, vocabulary diversity, and complex language probably impede growth in word recognition.

Those studies that have found strong relationships between storybook reading and print-related skills may actually be confounding the effects of storybook reading with those of a home or classroom with a high literacy press. For example, a recent large-scale survey conducted by the National Center for Educational Statistics (Nord, Lennon, Liu, & Chandler, 2000) found that children who were read to at least three times a week were significantly more likely to know all the letters of the alphabet, to read or pretend read a book, and to write their own name—all early indicators of emergent literacy. But the same survey found that children who were read to three or more times a week were more likely to be able to count to 20. One can hypothesize a path from sharing storybooks to literacy; the relation to counting is more difficult to imagine. More likely, the relationship to counting, and probably to literacy, is largely explained by the fact that children who are read to often are more likely to be in homes with a strong academic press, where literacy and numeracy activities are more numerous and more common. It is this type of home, of which frequent storybook reading is just one characteristic, that gives some children an advantage in literacy learning.

Dickinson and Tabors' (2001) findings are more problematic. They observed 3- and 4-year-old children around a storybook reading event in their homes and classified the talk around the book as either "immediate" or "non-immediate." They found that 43% to 60% of the talk was immediate, meaning that it involved labeling of pictures or words in the text. Considerably less of the talk—11% to 18%—was non-immediate, meaning that it used the text to talk about personal experiences or the use of general knowledge to make predictions or draw inferences. The study found moderate negative correlations ($-.28$ to $-.32$) between the amount of immediate talk used at ages 3 and 4 during storybook reading and an emergent literacy measure, including such print-related measures as writing concepts, story and print concepts, sounds in words, and environmental print. They found positive correlations of the same magnitude between the amount of non-immediate talk and emergent literacy measures in kindergarten. Normally,

one would expect that non-immediate talk would draw children's attention away from the print, and thus cause *lower achievement*, rather than the higher achievement found by Dickinson and Tabors. It could be, however, that non-immediate talk is another characteristic of homes with a high literacy press.

Given that neither parents nor teachers nor children tend to focus explicitly on print during storybook reading time, it is not surprising that the correlations between storybook reading and print learning are so small. As a practical matter, one can encourage parents and teachers to fingerpoint, since modeling fingerpointing may encourage children to do more of it themselves during their own interactions with books (Pierce, 2000). We also might recommend increased use of alphabet books, since reading alphabet books may improve children's early word learning, as well (Murray et al., 1996).

One series of studies examined the effects of print orientation during storybook reading on children's acquisition of print concepts. Ezell and Justice (2000) and Justice and Ezell (2000) found that a videotape demonstration of print-oriented storybook reading (including fingerpointing, tracking of print, comments, questions, and requests about print) produced an increase in these behaviors among parents and children, as well as an improvement in children's knowledge of literacy concepts. Justice and Ezell (n.d.) extended this work to Head Start teachers and found that, in an 8-week training program, the use of print-referencing behaviors during storybook reading led to improvements in print recognition, alphabet knowledge, and phonological awareness, but not in basic print concepts, letter orientation, and use of literacy terms. The lack of effects on measures of print concepts is somewhat surprising, since presumably many of the adult interactions would be directed toward those concepts. This work is promising, but still in its preliminary stages. It is unclear whether short interventions would have long-term effects on such culturally mediated and ingrained behaviors as storybook reading.

In summary, reading books to children can improve their language skills, and language comprehension is essential for reading comprehension (Gough & Tunmer, 1986), but storybook reading is not a panacea for children's literacy. Instead, storybook reading should be part of a total instructional program that also includes direct instruction in print-related skills.

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