

Chapter 1

How Children Emerge in Literacy

*Dr. Smith says he does not remember how he learned to read;
he thought it seemed to have occurred naturally, like eating.
Why can't he recall?*

Emergent literacy is a term coined by Marie Clay (1966) that refers to the beginnings of literacy or the process of becoming literate. Children begin to develop the precursors of literacy long before they walk into a classroom at school. Many of us cannot recall when or how we learned to read. For many of us, our memories do not take us back to a time before we began reading, so it is difficult to describe, even from our own experiences, the path to becoming a reader.

The majority of school psychologists and others working in a consultant role (with the exception of reading specialists) know very little about how reading develops and therefore cannot answer many questions regarding developmental expectations of children at various ages and grade levels. School psychologists, in particular, are expected to have a strong understanding about child development and human behavior, and they are likely to be approached about developmental and behavioral issues that are academically related. This chapter is primarily intended to provide school psychologists and other consultants with an understanding of how reading typically develops. Precursors of reading development such as oral language, vocabulary, and concepts about print are discussed; critical component skills and how they are connected are described in detail. These include phonemic awareness, alphabetic principle, phonological decoding, and orthographic processing, followed by oral reading development, reading fluency, reading vocabulary, and reading comprehension. Instruction on how to teach these skills effectively is presented in section 2 of this book.

LANGUAGE DEVELOPMENT

Miss Jones, a preschool teacher, was amazed how well Julio, a three-year-old boy, was able to predict what was going to happen next in a mystery story she was reading to the children. How might this happen?

Language development is one of the most critical precursors to developing literacy skills with ease. Many practitioners view oral language as a naturally developing skill and reading as a skill that needs to be taught. Certainly, reading is a skill that needs to be taught, but so does oral language, in a sense, because it does not develop as naturally as one may envision. Many educators would agree that language development begins in the home during instances when children have the opportunities to observe, listen, and use language to communicate with others and to receive communication from others. Language is most likely to develop through verbal interactions between caregivers (parents) and their children. Quality, as well as quantity, of verbal interactions is critical. These interactions establish the foundation (“background knowledge”) on which children can build.

Quality of verbal interactions in the home refers to the types of dialogues that occur between parents or caregivers and their children. Many types of verbal interactions occur between parents and children, but those that help children reason and form verbal relationships about events or activities are considered to be *rich* or high-quality types of interactions (Nelson, 1996). High-quality verbal parent-to-child interactions include asking children questions that encourage an elaborate response or one that is beyond a *yes* or *no* response. Encouraging children to share in detail their own memories about an event such as a visit to the zoo or a vacation, or how they made an object with blocks or helped make cookies, would be considered eliciting high-quality verbal interactions (Nelson, 1996). Often, as children attempt to interact about a past trip or how they made something, they may need prompting to remember an event that occurred on their trip or a step in making an object. When parents prompt children in this manner, they are helping their children reason and organize information.

High-quality verbal interactions can also occur during an activity that the parents and their child are currently doing together. For instance, putting a puzzle together can be a rich opportunity to model and elicit oral language. Before beginning to put the puzzle together, parents can vocalize a strategy for arranging the pieces or plan to work from the outside to the inside; better yet, they can ask the child for ideas on how to proceed with the task. During the activity, parents can verbalize their thinking about a puzzle piece and why they think it may fit with another piece and then encourage the child to verbalize his or her thinking while working on putting the pieces together.

Storytelling and storybook reading are two high-quality activities that many young children repeatedly enjoy. During these activities, children can discover the meanings of words, label pictures, make predictions, and form cause-and-effect relationships. Guiding children through a story by asking questions and providing them with feedback and then

encouraging extensions on their responses stimulate high-quality verbal interactions (Thomas, 1985).

In general, high-quality verbal interactions not only build vocabulary and sentence formation skills but also foster analytical and synthetic reasoning skills as well as the use of language as a tool for problem solving. These types of rich dialogues were found to contribute to children's linguistic and cognitive growth (Nelson, 1996).

The quantity of verbal interactions is also very important. In fact, Hart and Risley (1995) reported that children who resided in families that listened and talked to one another frequently had higher linguistic and vocabulary skills than children who engaged in limited verbal communications. These differences particularly occurred between social classes (Alexander, Entwisle, & Olson, 2001). Parents who had professional careers and high socioeconomic status tended to listen and talk to their children more frequently and engage in more high-quality verbal interactions than parents who had working-class jobs or parents who were on welfare. Thus, the children from professional families entered school knowing more than double the number of vocabulary words that children from working-class and welfare families did (Graves & Slater, 1987; Hart & Risley, 1995).

Language gaps between children residing in low socioeconomic households and those residing in high socioeconomic households continue into formal school years despite exposures and opportunities to similar types of instruction. This finding was very prevalent in a study conducted by Entwisle, Alexander, and Olson (1997). These researchers found that children who resided in middle-class families were likely to engage in more enriching activities outside of school during weekends and vacation times than children residing in low-income families. Enriching activities included going to the library, museums, historical sites such as national monuments, and family vacations. These findings should be interpreted with caution, as this does not necessarily mean that children from low socioeconomic families speak less than children from high socioeconomic families. Children from working-class and welfare families should not automatically be classified as poor readers, and children from professional families should not automatically be classified as proficient readers. Much of the vocabulary found in books at the preprimer and primer levels are words that are in most all children's oral language repertoires despite their parents' socioeconomic status (McCormick, 2003).

Structures of Spoken Language

The structures of spoken language are learned at very early ages even though children may not yet be able to identify parts of speech (Bloom, Barss, Nicol, & Conway, 1994). Through frequent verbal interactions, children begin to imitate their parents' speech and eventually learn syntax (sentence structure) and semantics (meaning; Golinkoff & Hirsch-Pasek, 1995). Very young children may say a phrase or a sentence that is often stated by their parents, such as "Mommy go bye-bye." They listen to how language is arranged in a certain way so that it makes sense or conveys statements that are easily understood.

This is evident as children's sentence length grows from two words to four, and so on. As children continue to become linguistically sophisticated, their spoken language reflects a more complex and wider range of grammatical structures. Chaney (1992) found that syntactic and semantic language skills were predictors of performance in phonological skills for a sample of preschoolers.

Pragmatics of Language

Young children also learn the various uses of language or the pragmatics of language (Ninio & Snow, 1996). Very young children soon learn to use their words as a means to communicate their needs or make requests instead of crying, babbling, or gesturing. They also begin to learn how adults communicate with each other during conversational situations, such as at the dinner table. They soon realize that language is used in genres such as storytelling or storybook reading time. Young children not only discover the pragmatics of language but also begin to think about and manipulate language, in a process of developing *metalinguistic skills*.

Language and Reading

Having adequate language skills, including vocabulary, can help children read and comprehend text with more ease when they encounter printed words (de Jong & Leseman, 2001; Roth, Speece, & Cooper, 2002). Learning how to read does not come naturally to children, but they will encounter the task with more ease if they can match printed words and their meanings to words and meanings they have in their oral language repertoires (McCormick, 2003). Knowledge of oral language provides a way for children to self-check words they are reading and determine if they sound syntactically or semantically correct. Oral language in this context does not necessarily refer to children who are observed to talk aloud often. Some children are quiet by nature and engage in private speech and subvocalizations at significantly higher rates than overt vocalizations.

Acquiring language is not a guarantee that children will become proficient readers, even though language correlates significantly with reading performance (Scarborough, 1998). Written language and oral language structures differ with regard to the way sentence patterns are constructed. This is one of the reasons children should listen to storybooks being read to them (McCormick, 2003). Reading aloud is a very important activity if you want to expose children through oral language to the way sentence patterns are constructed in written language before children actually read the printed words in a book.

CRITICAL COMPONENT SKILLS

Reading is a complex activity involving several component skills (National Reading Panel, 2000). Research has shown that children who do not learn basic early component skills of reading are likely to be at a disadvantage during their formal schooling years and beyond (Moats, 1999). Each of these skills is necessary but alone is not sufficient to allow

a child to become a proficient reader. The goal of reading is to move from learning to read to reading to learn. Several of the component skills discussed in this section need to be automatized or appropriated if learners are to use reading as a tool for obtaining information or as a recreational activity that brings them pleasure and entertainment.

Concepts About Print

*While watching a video in which he was reading a book to his nine-month-old daughter as they sat on the couch, Sam reported that he noticed his infant daughter's head tilted and her eyes moved from left to right.
Can infants read?*

Although a picture may be worth a thousand words, it is important that children eventually realize that it is printed words, not pictures, that reveal a message. When children have concepts about print, it means that they are able to distinguish words from pictures, know that a book has a front and a back, know that books are read right side up, and know that printed words across a page in a book are read from left to right and top to bottom (Clay, 1993). Children develop concepts about print very early, often at home before they enter formal schooling (Morrow & Young, 1997). According to a report provided by the National Research Council (edited by Snow, Burns, & Griffin, 1998), children from birth through three years of age begin to develop concepts about print as they recognize specific books by the cover, label pictured objects in books, and pretend to read books.

It is not the presence of the print materials that is most critical, although that is important. Rather, it is the quantity and quality of interactions with print that shape early reading development (Mason & Allen, 1986). Concepts about print are best learned through interactions with parents or caregivers during routine storybook reading time. This is the time when parents demonstrate how to hold a book, how to turn pages, and how to read words from left to right, often by running their index finger across the page in a left to right sweeping motion as they read the words. Children are also prompted to put their fingers on a page and point to the words on a page rather than the pictures. Concepts about print can be taught during playtime or in a preschool classroom through make-believe play activities such as working in a restaurant as a waiter taking orders or as a customer reading and ordering from the menu or pretend-working in a post office where letters are addressed and stamped. These types of activities were found to be very effective in helping preschoolers gain concepts about print (Neuman & Roskos, 1992).

Phonological Awareness

*Sally can identify beginning and ending sounds, but she has difficulty identifying the middle sounds in spoken words.
What does this mean?*

The acquisition of phonological awareness skills plays a primary role later in recognizing and comprehending printed text (Torgesen & Mathes, 2000). Phonological awareness

is alertness to the sounds in spoken language. It is also the operation and manipulation of sounds in spoken words. Numerous studies have revealed that phonological awareness, rather than intellectual ability, is a better predictor of word reading performance for children in the early primary grades (e.g., Share, McGee, & Silva, 1989; Siegel, 1988; Stanovich, Cunningham, & Freeman, 1984; Stanovich & Siegel, 1994; Vellutino, Scanlon, & Lyon, 2000). Explicit training in phonological awareness during the preschool and kindergarten years may also have the potential to mediate the effects of poverty (Kaplan & Walpole, 2005).

According to Lundberg, Frost, and Peterson (1988), phonological awareness involves the following developmental progression of skills: (1) rhyming, especially the production of rhymes, (2) hearing individual syllables in words, (3) hearing initial sounds of words, and (4) hearing sounds within words. Rhyme production may involve having children co-construct a jingle or a poem by taking turns with their parents or teachers creating a phrase that rhymes with the previous phrase. Eventually, young children will feel comfortable producing their own rhymes without assistance from others. Children can learn to attend to individual syllables in words by clapping or counting the syllables. Children can attend to initial sounds in words by being shown a picture of an object and saying the word it represents, followed by its beginning sound. In that activity, three additional pictures are presented. One of the pictures depicts an object with the same beginning sound as the first picture presented. Children can circle, point to, or say the word of the picture that has the same beginning sound as the first picture presented. The same activity can be used to help children attend to ending sounds in words.

Learning to hear sounds within words can be presented through an oddity task or odd-one-out task. Children may be presented with the words sit, fit, kit, and cat and asked to choose one that sounds different from the others. Generally, children attend to beginning and ending sounds before attending to middle sounds during phonological awareness exercises.

According to Lane, Pullen, Eisele, and Jordan (2002), there are four levels of phonological awareness development: (1) Young children first become aware that speech flow is a collection of individual words. (2) Young children distinguish syllables in spoken words followed by onset and rime activities (intrasyllabic level). For instance, the onset may be the consonant sound that precedes the vowel, such as the /c/ in the word *cat*. The rime is the rest of the word, such as /at/ in the word *cat*. This is considered to be a rather sophisticated phonological awareness skill because tasks that require onset-rime analysis involve segmentation of syllables. (3) The final level is the phoneme level, which is most commonly referred to as phonemic awareness and is considered to be the most sophisticated level.

Phonemic awareness is one of the most important components of phonological awareness because it has been found to be a critical precursor skill to successful reading and spelling performance (Ball & Blachman, 1991; Bentin & Leshem, 1993; Byrne & Fielding-Barnsley, 1991; Griffith, 1991; Hatcher, Hulme, & Ellis, 1994; Juel, 1988; Stahl & Murray,

1994; Tangel & Blachman, 1992). Phonemic awareness is a more specific skill that requires attention to and manipulation of *individual* sounds of spoken words. A phoneme is the smallest unit of sound (an individual sound) in a word. The English language contains approximately forty-one phonemes.

Daly, Chafouleas, and Skinner (2005) provide a hierarchy of phonemic awareness skills or skills that, more specifically, involve the manipulation of individual sounds in words. The first skill in their hierarchy of skills is *alliteration*. This skill involves having the child identify and say the first sound in a word, such as saying /c/ for the word *cat*, and identifying words that have the same first sound, such as categorizing *cap* with *cat* when the words *sun*, *cap*, and *dog* are presented. The next skill is *blending*, which consists of blending the individual sounds of a word to make a whole word, such as /c-a-t/ to form the word *cat*. Blending is followed by the child segmenting the sounds of a word by clapping three times as each sound in the word /c-a-t/ is slowly articulated, or by saying each of the individual sounds heard in the word *cat*.

The final skills in the developmental progression involve deleting, substituting, and reversing individual sounds in words to make new words. When the word *cat* is articulated, children are asked to say the new word when the /c/ sound “walks away” and when the /b/ sound “comes over to stand” in the /c/ place, as in *bat*. Children may also reverse the sounds in the word *bat* to form another word, *tab*, and add sounds to a word, such as adding /s/ to the word *tab* to form the word *stab*. Among the phonological awareness skills, Nation and Hulme (1997) found that phoneme segmentation skills were the best predictors of word reading performance for a sample of first graders.

Phonemic awareness has been strongly related to phonological memory, especially at the early ages (Wagner, Torgesen, Laughon, Simmons, & Rashotte, 1993). According to Torgesen (1988), phonological memory (sometimes called *memory span*) is a process by which individuals store phonological codes in their working or short-term memory. Gathercole and Baddeley (1990) found that deficits in phonological memory did not affect elementary school-age children’s ability to speak and read known words but did affect their ability to speak and read words that were unknown to them. Phonological memory becomes more crucial as children grow older and confront new complex words such as multisyllabic words. If children are unable to store all of the sounds or chunks of sounds in their immediate memories, they may have difficulty blending all of the sounds to form a whole word. Thus, phonological memory is a characteristic that distinguishes good readers from poor readers (Muter & Snowling, 1998; Swanson, 1992; Torgesen, 1988; Vellutino et al., 1996).

Whereas phonological memory involves the storage of phonological codes, *rapid naming* refers to the efficient retrieval of that phonological information (McDougall, Hulme, Ellis, & Monk, 1994). In other words, rapid naming is rapidly accessing phonological codes to speak and read fluently. Rapid naming tasks are timed and typically consist of naming objects, digits, letters, or words quickly or automatically. Children experienced the greatest difficulty learning to read if they exhibited a combination of limited rapid naming and

phonological awareness skills (Wolf & Bowers, 1999; Bowers & Wolf, 1993). Some investigations have revealed correlations between rapid naming and phonological awareness, letter-name knowledge, and very basic decoding skills (Compton, 2003). Others have found significant relationships between rapid naming and orthographic and reading comprehension skills (Bowers, 1995; Cutting & Denkla, 2001; Manis, Doi, & Bhadha, 2000). Although investigations have reported a relationship between rapid naming and other early literacy skills, some researchers have found that the relationship is stronger for intermediate graders than it is for primary graders (Kirby, Pfeiffer, & Parrila, 2000).

Orthographic Knowledge

*Johnny, a beginning kindergartner, can name all the letters in the alphabet but does not know the sounds that all the letters make.
Is this “normal”?*

Orthographic knowledge involves *lexical processing* of words, which means analyzing the visual or graphic structures of letters and words and involves storing these lexical features in memory (Olson, Forsberg, Wise, & Rack, 1994). At least as early as three years of age, children begin attending to letters in names, particularly their own name (Snow, Burns, & Griffin, 1998). Knowing about letters (*graphemes*) and noting letter sequences in words require orthographic skills (Ehri, 1991).

Many young children (four to five years old) may be able to name the letters of the alphabet, either by reciting the alphabet orally or by singing the alphabet song or by looking at the printed symbols and naming the letters. In some cases, even three-year-olds have been known to name ten letters of the alphabet (Snow et al., 1998). Typically, children are able to do this before they are able to identify the sounds that the letters represent (Worden & Boettcher, 1990). Letter naming, especially letter-naming fluency, has been found to be related to early reading skills (Johnston, Anderson, & Holligan, 1996), although some claim that the relationship between letter-naming training and word recognition acquisition is not as strong as the relationship between phoneme awareness and word recognition acquisition (e.g., Allor, 2002; Ball & Blachman, 1991; McBride-Chang, 1999). However, some earlier investigations reported that training programs that combined phonemic awareness exercises, such as phoneme segmentation, with letter-shape instruction produced greater outcomes in early reading acquisition skills than general language skills instruction (Bentin & Leshem, 1993). Knowledge of letter names influences children’s early attempts to write words (Treiman & Tincoff, 1997).

In their later development of orthographic features of language, children (particularly those in the primary grades) begin to note letter sequences or spelling patterns in words and how combinations or patterns of letters are strung together and represent certain sounds. For instance, when two letters that represent vowel sounds follow one another in the middle of a word such as in the words *meat* and *gait*, the sound of the first letter representing the vowel sound is heard rather than the subsequent letter. For the word *meat*, the long /e/

sound is heard, and the long /a/ sound is heard for the word *gait*. These types of spelling patterns found in words make it possible for words to be learned by analogy and automatically (McCormick, 2003). For instance, once a learner knows how to read the words *main*, *pain*, and *rain*, they are likely to learn how to read the word *stain* with much ease and with little assistance. Recalling orthographic features of words can be challenging when words sound alike but are spelled differently, such as *pane* and *pain*. Orthographic knowledge of words also plays a role in obtaining morphemic (meaning) units of words such as prefixes and suffixes (Frith, 1985; Nagy, Berninger, Abbot, Vaughan, & Vermeulen, 2003).

Alphabetic Principle

In a seminal book about beginning reading, Adams (1990) proclaims that acquiring phonemic awareness and letter-naming skills eases one's way to understanding the alphabetic principle. According to Torgesen and Mathes (2000), phonemic awareness helps children understand the alphabetic principle, helps children become aware of the regular ways letters represent sounds, and makes it possible to identify words in context even if they can only be partially sounded out.

The *alphabetic principle* refers to knowing that there is an association between letters and sounds or that there are letter-sound relations. One way to learn letter-sound relations is by having children read alphabet books that contain printed upper- and lowercase letters, pictures, and words that represent the sounds of the respective featured letters. For instance, to understand that /b/ is for *bear*, children need to understand that the first sound in *bear* is /b/. Some experts have suggested that lowercase letters should be taught first because the majority of words in reading text are printed in lowercase letters (Carnine, Silbert, Kame'enuei, & Tarver, 2004). This may be the case for children who have limited prerequisite literacy skills, and learning lowercase letters may quickly lead to engaging in printed text. Children who can make approximately forty letter-sound correspondences in one minute by the end of kindergarten are at an advantage for beginning reading instruction when they enter first grade (Casey & Howe, 2002). Thus, word reading strategies begin to develop when children begin to make connections between phonological and orthographic features of language. Blachman, Tangel, Ball, Black, and McGraw (1999) found that kindergarten children who received a combination of phonemic awareness, letter-naming, and letter-sound training outperformed their peers (control group) in reading phonetically regular words, reading pseudowords, and spelling basic words.

Phonological Recoding and Decoding

Mr. Jones reported that Jamie, a first grader, had an "Aha" moment when he read the word dog for the first time and said, "Oh, I know this word. I have a pet dog." Why did Jamie say this?

When children encounter printed words and attempt to read the words, they go through a process of *phonological recoding*, which means they try to recode the printed word

back to its oral representation (Share, 1995). Similarly, Vandervelden and Siegel (1997) defined phonological recoding as retrieving the pronunciation of a word in one's oral vocabulary when it is newly encountered in print through systematic relationships between letters and sounds. Essentially, the term *recoding* rather than *decoding* is used here to describe the process because children check to see if the word they are reading matches one in their speaking vocabulary repertoire (Daneman, 1991). This process is a reminder about the valuable connection between oral and written language.

Many of the basic words in print that first graders encounter are words with consonant-vowel-consonant patterns (CVC). These words often require a one-to-one letter-sound correspondence. Children are taught to sequentially decode these types of printed words by making one-to-one sequential letter-sound correspondences, such as blending the sounds of the letters c-u-p to produce the word *cup*. At more advanced levels, children hierarchically decode words by using letters in words to cue the sounds of other letters, such as using the letter "e" at the end of the word *cake* to cue them to make a long vowel sound for the letter "a" (McCormick, 2003).

Phonological coding involves applying the alphabetic principle, which is the linking of phonological and orthographic features of language. A reciprocal relationship likely exists between the development of spoken and written language. Awareness of sounds in spoken language aids in decoding written language, and developing written language skills such as reading and writing contributes to growth in oral language (Chase & Tallal, 1991). Perfetti, Beck, Bell, and Hughes (1987) discovered that children's growth in word reading skills strengthened their phonological awareness skills.

Word Reading

*Tiffany paused when she came across a word that was unfamiliar to her and decided to use letter-sound correspondence strategies to figure out how to read it.
Is this word recognition or word identification?*

Word reading is a more general term that encompasses word recognition and word identification skills. Often, the terms *word recognition* and *word identification* are used synonymously. McCormick (2003) provides a clear distinction between these two terms. She defines word recognition as the instant recall of words or reading of words by sight. Word identification refers to the instances when the reader needs to access one or more strategies to aid in reading a word. Children who are proficient at the use of strategy almost make it seem as if they are reading the words effortlessly, whereas children who have had little experience with strategy use appear to exert much effort in figuring out how to read a word.

Ehri and McCormick (1998) postulated the following phases of word learning: (1) prealphabetic, (2) partial alphabetic, (3) full alphabetic, (4) consolidated alphabetic, and (5) automatic. In the prealphabetic stage, children have knowledge of logographic features (word graphic features), and they employ these features to read words. For instance, they may

recognize a word by its shape or length. They do not tend to recognize many words in context-free situations. Children in this stage do not make letter-sound associations; however, they may be able to remember and read words that they have been exposed to repeatedly. In the partial alphabetic stage, children are able to recognize more words in isolation (context-free situations) as they use more letter cues to recognize words. Some analytical skills are applied, such as breaking down words into letters and using beginning and ending sounds to recognize words; however, most words are read by sight. In the next stage (full alphabetic), students begin to learn and use more letter-sound associations to read words. Children may be observed to point to each letter of a word and decode a word very slowly using a one-to-one correspondence between letters and sounds. Later, they are able to decode words more quickly. In this stage, children learn many more words than in previous stages.

In the consolidated alphabetic stage, children begin to recognize words by analogy, especially words that share common spelling and sound patterns (sometimes referred to as phonograms or *word family* words). For example, children are able to read the word *hike* because they already know how to read the words *bike* and *like*. Familiar spelling-pattern units in words, such as those that end in “ip,” are easily pronounced (e.g., *sip*, *dip*, and *zip*), which makes bigger words, such as *skip* or *zipper*, more manageable (less overwhelming) to decode. Reading a significantly greater number of words and reading them more fluently are evident in this phase.

The final phase of word reading is the automatic phase. Most all words are recognized by sight or effortlessly. Readers have a variety of strategies that they systematically apply when reading words that are unfamiliar. When children learn to read several words, they are likely to read more words at increasingly higher rates. This phenomenon is what Stanovich (1986) called the “Matthew effects of reading” (good readers get better and poor readers get poorer).

It is important that children reach the automatic stage of word reading so that less of their cognitive effort is spent figuring out how to read print. Instead, their effort is spent obtaining meaning from print. Learning to read, in a sense, is a complex process, because words may be presented in structurally diverse ways in various genres or types of literature; therefore, it is important that children reach a stage at which they are reading to learn. This is especially critical during formal schooling, in which reading is required to obtain information across all academic content areas. Moreover, reading skills have become more critical beyond formal schooling years as society has advanced technologically.

Word reading and spelling develop closely together. Zutell (1998) describes five stages of spelling development: preliterate, phonetic or letter-name, transitional, syllable juncture spelling, and conventional spelling. The first stage is called the preliterate stage because children initially scribble. In this stage, they do not know all the names of letters and do not know any letter-sound relationships. Later in this stage, children begin to write a letter or letters that represent a sound or word. For instance, children may write the letter that

their name begins with to represent their entire name or they may spell a word using three letters even though it is spelled using more letters. For instance, they may spell the word teacher as “ter.” In stage two, the phonetic or letter-name stage, children can spell words using appropriate letter-sound associations although they still make errors, such as spelling “skipt” for skipped. Children then move on to a third stage, the transitional stage, when they often spell words using medial vowels and produce correct inflectional endings (e.g., “ed,” “ing”). In stage four, syllable juncture spelling, children can spell a large number of single and multisyllabic words with high-frequency spelling patterns but still have difficulty with some complex doubled and unstressed vowels in polysyllabic words. Stage five is the conventional spelling stage. Children at this stage can correctly spell most words with confusing patterns, especially if they have had adequate exposure to the words. It is natural for children to invent the spellings of words when they are beginning to attempt to write words. However, it is important for children to eventually learn to spell conventionally so they may be able to effectively communicate in written form.

Passage Reading

Before children engage in passage reading, they engage in storybook reading with their parents, caregivers, or preschool teachers. From many observations of very young children, Sulzby (1985) generated developmental stages of how children’s skills emerge in storybook reading. Beginning at about two to three years of age and continuing, children progress in their storybook reading skills by initially attending to pictures without forming stories yet, and then by attending to pictures and spontaneously forming oral stories. Soon, children attend to pictures, and their storytelling fluctuates from spontaneous storytelling to storytelling that appears as if they are reading text but they are not actually reading print yet. Children move from attending to pictures and sounding as if they are reading to attending to print and actually reading text (Sulzby, 1985).

Passage reading is important and should be included in primary grade instruction. Opportunities to practice reading words in context such as stories help children apply their word identification and recognition skills as well as their comprehension skills (Carnine et al., 2004).

Fluency

*Jerome reads quickly but his voice sounds monotone.
Is Jerome a fluent reader?*

The skill of reading fluency is critical to increasing the rate at which text is translated into spoken language (Torgesen, Rashotte, Alexander, Alexander, & MacPhee, 2003). Carnine et al. (2004) distinguished between the terms *automaticity* and *fluency*. They indicated that automaticity refers to reading words in isolation very swiftly and without much

effort. They further stated that one cannot assume that if children read words automatically in isolation, they will be able to read words in a passage accurately and quickly. Nevertheless, increasing word recognition accuracy places children in a better position to read passages fluently. Fluency refers to reading words in passages in a flowing, accurate, quick, and expressive manner. Reading with expression (*prosody*) means exhibiting variations in pitch, pausing between sentences, stressing syllables, and using intonation that reflects the statements in the text (Hudson, Lane, & Pullen, 2005). Fluent readers can read an average of at least seventy-five to one hundred words per minute accurately, with three to five errors on grade-level passage text (Shinn, 1989).

Carnine et al. (2004) suggested that fluency exercises on oral reading passages should be incorporated in daily lessons until children read approximately 135 words per minute with 97 percent accuracy using fourth-grade reading materials. Having no errors or minimal errors in reading is critical to gaining meaning from text (National Center for Educational Statistics, 2002). Children who do not read fluently often read passages very slowly, laboring over many words one by one. Reading fluency is a good predictor of reading comprehension performance (National Reading Panel, 2000; Rasinski, 1990). Fluency not only contributes to better comprehension of text but also may eliminate frustration caused by working slowly and needing more time to accomplish assignments, especially in the intermediate grades (Carnine et al., 2004).

Reading Vocabulary and Comprehension

*When Carisa began to read the new story of the week, she told her teacher that she remembered reading about trains and how they operated in the Polar Express book.
What is Carisa doing?*

Knowing the meanings of words and concepts and comprehending text are as critical as knowing how to recognize words and read them fluently. Reading vocabulary and comprehension are very much related to receptive and expressive language knowledge and skills. A reciprocal relationship exists between oral and written language growth. An adequate language base (e.g., vocabulary) eases children's way into written text. Engaging in reading and writing activities enhances children's language knowledge and skills (e.g., increasing vocabulary). Children use language skills when, according to McCormick (2003), they attend to the propositions or the smallest units of text information that can be tested as true or false and stand separately when children attempt to comprehend them. Children also activate their prior knowledge and experiences, or schemata, when the contents of the text are familiar. Intertextuality is observed when children make connections between new textual information and textual information that they read in the past (Short, 1992). Therefore, comprehending text is a complex skill because it involves understanding text structure, making inferences, knowing word meanings, and relating sentences, paragraphs, and so forth to each other (Randi, Grigorenko, & Sternberg, 2005).

WHAT CAN SCHOOL PSYCHOLOGISTS AND OTHER EDUCATIONAL CONSULTANTS DO?

1. While observing students, attend to where they are developmentally with regard to prereading and reading skills.
2. Dispel unsupported myths about learning how to read.
3. Help educators incorporate the teaching of critical component prereading and reading skills in their daily lessons.
4. Help educators incorporate basic as well as higher-order reading skills according to individual students' needs.
5. Help educators realize the importance of teaching to mastery and fluency.
6. Give educators an opportunity to share their instructional reading lessons and materials and help them engage in continuous enhancement activities so that lessons and materials are conducive to meeting students' needs.

SUMMARY POINTS

- Language development is related to reading development.
- High-quality verbal interaction between caregivers and children refers to helping children describe events, engage in verbal problem-solving, and form cause-effect relationships.
- *Quantity of verbal interactions* refers to how frequently caregivers listen and talk to their children.
- Acquisition of syntactic, semantic, and pragmatic elements of oral language eases children's path to becoming literate.
- Concepts about reading print can be learned very early, especially during storybook time, when caregivers demonstrate how to hold a book, turn pages, and read words from left to right.
- *Phonemic awareness* is the alertness to and manipulation of sounds in spoken language, including segmenting and blending of sounds.
- *Orthographic knowledge* refers to an awareness of how letters are sequenced in words (spelling patterns).
- *Alphabetic principle* refers to the knowledge that a relationship exists between letters and sounds. For instance, when children encounter printed words, they recode that word back to its oral representation.
- *Fluency* includes accuracy, speed, and prosody.
- Reading comprehension involves understanding text structure, making inferences, knowing word meanings, and relating sentences and paragraphs to each other.

QUESTIONS FOR DISCUSSION

1. How do oral language skills, conception of ideas expressed in print, and phonological awareness play a part in reading development?

2. What are the differences between phonological recoding and phonological decoding?
3. Distinguish between word recognition and word identification.
4. Why does word recognition promote reading fluency and reading comprehension?
5. How might oral language skills, conception of ideas expressed in print, and phonological awareness also play a part in spelling and writing development?

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