

## **Early Literacy Content and Supporting Research**

The Growing Readers Early Literacy Curriculum is built around four content areas: comprehension, phonological awareness, alphabetic principle, and concepts about print. Collectively, this content is sometimes referred to as the *inside-out* concepts that help children identify or decode words, that is, phonological awareness, alphabetic principle, and concepts about print, and the *outside-in* concepts that help children make sense of what they see and hear, that is, comprehension concepts (Whitehurst & Lonigan, 2001). Young children need meaningful experience in these four critical areas because their knowledge of these early literacy concepts is predictive of their later reading achievement (Snow, Burns, & Griffin, 1998; Neuman & Dickinson, 2001).

In Growing Readers, each content area is divided into topics of special significance to three, four, and five-year-old literacy learners. For example, the content area of comprehension includes small-group literacy activities on four topics: vocabulary, prediction, connection to real life, and retelling. Further, each topic is presented on three developmental levels: early emergent, emergent, and competent emergent. Growing Readers small-group activities, therefore, are organized by literacy content area, topic, and developmental level to best suit children's emerging literacy knowledge and literacy learning needs (Morrow & Smith, 1990; Whitehurst & Epstein, 1994; Case & Okamoto, 1996). These literacy topics are then extended into everyday literacy-rich classroom play to further support and extend children's learning (Morrow, 1990; Neuman & Roskos, 1992; Neuman & Roskos, 1993). The scope and sequence of the Growing Readers Curriculum and the scientifically-based reading research on which it is based are presented in some detail in this chapter.

### **Comprehension**

Comprehension is the process of deriving meaning from action, speech, and text by connecting what you are learning to what you already know. Comprehension enables children to make sense of what they see, hear, and, later on, read, and to express themselves in ways that make sense to others. Children make meaning by assimilating new information into previous understanding. That is, they form new cognitive schema or mental structures that alter the way they see, think, and comprehend (Piaget, 1955; Anderson & Pearson, 1984).

In daily face-to-face interaction and conversation with attentive family members and teachers, children hear, understand, and try out word sounds, inflections, words, word order, grammar, and meaning as well as the social conventions of speech. Through these experiences, children build an ever expanding bank of words they understand (receptive vocabulary) and words they use in their own speech (expressive vocabulary). Participatory story book reading requiring children to think and talk effectively engages them in making sense of what they hear and see (Dickinson & Smith, 1994; Martinez & Teale, 1993; McGill-Franzen & Lanford, 1994). Through interactive story reading, preschool children construct an understanding of story

language and structure by talking about what they see in pictures, connecting elements of the story to their own lives, predicting what will happen next, retelling story sequences, and linking new words to known concepts and experiences. In fact, When children look at picture books, the process of meaning making is similar to the cognitive efforts to construct meaning from printed words (Paris & Paris, 2003, p. 39). As they engage in thought-provoking experiences and conversations, children formulate conceptual knowledge and schema (an understanding of common behavioral sequences) and begin to use literate or storybook language ( Once upon a time... ), decontextualized language (language related to things and events not immediately visible, I had eggs for breakfast ), as well as new words (celebrate, travel, velvet), and technical vocabulary (caboose, boxcar; petal, stem) to express what they know (Dickinson & Tabors, 2001; Hargrave and Senechal, 2000) and develop narrative comprehension. While there is considerable research on the narrative comprehension of adults and elementary-aged children (see Paris & Paris, 2003), measures of preschool children s narrative comprehension have not received much attention. Children between the ages of five and seven, however, do demonstrate the ability to predict, infer events, describe a character s feelings, and recall events in sequence, and their comprehension skills increase in quality and quantity over time (Paris & Paris, 2003). These findings have influenced the comprehension topics Growing Readers activities focus on: vocabulary, prediction, connection to real life, and retelling.

### **Vocabulary: building word banks**

A great deal of vocabulary acquisition occurs before children become literate (Biemiller, 2001). In fact, in long-term research on the everyday experiences of three- and four-year-old children, psychologists Betty Hart and Todd Risley found that on average, three-year-olds have heard between 10 million and 30 million new and repeated words over the first 1000 days of their lives. The amount parents talked to their children, particularly the amount of extra talk beyond that needed to transact the everyday business of family life, was powerfully related to the children s cumulative vocabulary in use and to other measures of their verbal competence in first grade and beyond (Hart & Risley, 1999, p. 171). By exposing children to a broad, rich vocabulary and taking pleasure in using all kinds of words with children, teachers can help children build a verbal storehouse they can draw on later as they read. The more words children have in their speaking vocabularies, the more likely they are to make sense of written text (Snow, Tabors, & Dickinson, 2001).

Children learn new words gradually as they hear and use them again and again (Nagy & Scott, 2000; Crago & Crago, 1976; Martinez, 1983; Hargrave & Senechal, 2000). The more frequently they encounter a new word, the more attuned they become to its multiple meanings and shades of meaning. Children add new words to their vocabulary through action and experience, conversation, storytelling, and hearing and talking about books. The more words they know, the more success they will have as readers (Cunningham & Stanovich, 1997).

### **Prediction: forecasting what will happen next**

Prediction, imagining the future, is a habit of mind three- and four-year olds are just developing. They are learning to stretch their minds beyond the immediate moment, to form mental pictures of actions, people, materials, and story characters that are not actually present. The transition from here-and-now (contextual) language to there-and-then (decontextual) language enables them to become literate (Snow, 1983). The capacity to anticipate and predict allows children to make sense of familiar routines and action sequences in the stories they hear and tell. Further, children's growth in comprehension is related to how often they have opportunities to make predictions that cause them to think about the book they are listening to, looking at, and discussing (Dickinson & Smith, 1994).

### **Connection: relating pictures and text to real life**

Comprehension involves linking what you are learning to what you already know. As children hear stories and look at pictures in books, the act of recognizing and talking about familiar characters, objects, actions, and events helps children hook new story events, characters, objects, and actions to their growing personal knowledge base sometimes called their prior knowledge. Prior knowledge includes everything a person knows about objects, people, events, and ideas. As children grow and accumulate lots of experiences, they organize what they know for easy access into schema or related sequences (Anderson & Pearson, 1984). Therefore, for example, when a child hears about or sees a picture of a character finding and putting on shoes and says, "I put on my shoes on all by myself!" the child affirms an identity with the character and enters into the story with an experienced-based sense of ease and anticipation. Even though the shoe-wearing character may put on magic shoes, or lose a shoe, or walk through tall grass, the child follows along with interest because he or she wears, loses, finds and walks in the grass in shoes, too. Further, commenting on and talking about illustrations they are seeing and text they are hearing helps children connect what they do when they listen and speak in everyday conversations to what they do when they hear and talk about a book being read aloud (McGee & Richgels, 2000). And, in fact, the conversations that occur during book reading that promote the most interest and response from both child and adult are those that make connections between real life and text. Children appear to be eager to accommodate new information into their existing schema (Cochran-Smith, 1986).

### **Retelling: recalling events and episodes**

Retelling stories and parts of stories personally engages children in the complex thinking required to actively construct meaning, understand narrative stories, and participate in the story-forming process (Paris & Paris, 2003). By mentally forming and then articulating their own narratives based on what they have seen, heard, understood, and interpreted, children actively construct memory (Bolles, 1988). Retelling helps children create the narrative memory structure that will enable them to refer to, use, and elaborate on the story's main narrative elements again and again for the rest of their lives (Schank, 1990). When children retell some or all of a story, they are saying, in effect, "There! I've got it! It's mine!" Once children recall book items and events, they do not quickly forget them (Cornell, Senechal, & Brodo, 1988). Retelling

also allows children to enter into the lives of the characters, to speak on their behalf, to connect their own experiences to the characters, and in so doing, to comprehend what the characters are doing and saying. Figuring out why things happen in a story as well as retelling what things happen is especially important in increasing children's vocabulary and comprehension (Clarke-Stewart & Beck, 1999). Retelling helps preschool children develop critical narrative skills without which they are likely to have difficulty in school in general and with literacy in particular (Feagans, 1984; Roth, 1986).

## **Phonological Awareness**

Phonological awareness is the ability to recognize the sound structure of speech, that is, the ability to perceive sounds that make up words and to pronounce words and parts of words.

Children develop phonological awareness when they can hold sounds in mind. To be ready for phonological awareness, children need to be able to hear the specific sounds that make up a word and at the same time keep in mind the sound of the whole word. At ages three to four years, children are just developing the part-whole memory capacity necessary for phonological awareness. Around this time, children with a reasonable command of speech can hear and consciously isolate and say some of the sounds that make up words. Three- and four-year-olds have demonstrated phonemic awareness when assessed on such phonemic awareness tasks as knowledge of nursery rhymes, beginning word sounds, and word segmentation (Maclean, Bryant, & Bradley, 1987). While children's phonological awareness begins in preschool and develops completely after they enter school and have acquired some reading ability, its early stages are a central precursor to beginning reading success (Snow, Burns, & Griffin, 1998). Preschool children who know how to manipulate the sounds in words have greater success in learning how to read in 1<sup>st</sup> and 2<sup>nd</sup> grade (Adams, 1990; Juel, 1988; Stanovich, 1986), while preschoolers with poor phonemic awareness tend to have difficulty learning to read later on (Scanlon & Vellutino, 1997; Vellutino, Scanlon, et al., 1996).

An awareness of the sounds that make up words helps children to hear, categorize, store, and quickly retrieve the words they need as they begin to speak, write, and read fluently (Fowler, 1991; Goswami, 2000; Menyuk & Menn, 1979; Studdert-Kennedy, 1987; Walley, 1993).

The phonological awareness activities in the Growing Readers Early Literacy Curriculum are organized around three topics: rhyming, alliteration, and segmentation.

### **Rhyming: hearing word endings**

An early form of phonological awareness for many preschoolers is the ability to detect rhyming words (Lonigan, Burgess, et al., 1998). As preschool children begin to hear and distinguish parts of words, some of the word chunks they most apt to single out are rhymes

word endings that sound the same, such as the /at/ in *cat* and *mat*, the /oon/ in *moon* and *spoon*, the /ock/ in *sock* and *clock*, and the /iddle/ in *fiddle* and *diddle*. Producing rhyming words is more difficult for preschoolers than matching rhyming words (Chaney, 1992). However, rhyme sensitivity is predictive of other phonological skills (Anthony & Lonigan, 2004) and preschooler's memory for nursery rhymes has been related to their later reading ability (Bryant, Maclean et al., 1990; Cronin & Carver, 1998; Ellis & Large, 1987; Maclean, Bryant, & Bradley, 1987; Walton, 1995).

### **Alliteration: hearing initial phonemes**

As preschool children begin to hear and distinguish the sounds that make up words, some of the first very smallest sounds (phonemes) they begin to hear and explore are the initial sounds in individual words and in words that start with the same sound such as *baby* and *boy*, *tractor* and *truck*, *nose* and *knees*. Alliteration, when two or more words have the same initial sound, catches children's ear and draws their attention to phonemes as they repeat alliterative phrases they hear in stories, rhymes and songs (Wee Willie Winkie), notice the repetition of the same initial sounds ( *Hey, tip* and *toe* have the /t/ sound! ), and generate their own alliterative phrases ( *More moose mease!* ). Some preschool children can match words that begin with the same initial sound (Lonigan, Burgess, et al., 1998), a task that marks the transition from phonological awareness to phonemic awareness. Initial letter isolation, that is, the ability to identify the initial letter sound of a word such as the /l/ sound in the word *love*, is relatively easy for young children (Stahl & Murray, 1994). Producing words that begin with the same sound, however, is more difficult than initial letter isolation (Waskik, 2001).

### **Segmentation: hearing name syllables**

Segmentation is the act of isolating the sounds in a spoken word by separately pronouncing each sound in order (Ball & Blachman, 1991; Spector, 1992; Wagner, Torgeson, et al., 1993). This complex task is not an easy one for preschoolers; kindergartners are consistently better at it (Share, Jorm, et al., 1983). One way young children do begin to hear word sounds in order, however, is by hearing the syllables of names and other common words they hear people calling or singing. For example, they may hear a parent or family member calling *Ty-ler, dinner!* or singing *Swing low, sweet cha-ri-ot*, while they themselves divide some words into syllables as they sing *Ring a-round the ro-sie, a pock-et full of po-sies. Ash-es, ash-es we all fall down!* Young children can begin to hear and say syllables in names and words themselves when the names and words are naturally slowed down and broken into parts by calling or singing.

### **Alphabetic Principle**

Alphabetic principle is the systematic relationship between letters and sounds. While this is a mysterious concept to children who have not yet begun to read, all young children must discover the alphabetic principle to become fluent, independent readers (Snow, Burns, & Griffin, 1998). For three- and four-year olds, the alphabetic principle involves the following:

- " Realizing that printed text, like one's name, conveys meaning
- " Hearing sounds that make up words
- " Recognizing alphabet letters, some fairly readily
- " Connecting some letter sounds to some letters
- " Attending in particular to the letters and letter sounds in one's own name
- " Beginning to understand the idea that a word, such as one's name, is a consistent set of letters and sounds

Even with these foundational concepts are firmly in place, children who can recognize rhyming words, detect that two words have the same beginning sound, and identify all the alphabet letters by name still may not necessarily recognize that the alphabet letters in words align with sounds in words (Byrne & Fielding-Barnsley, 1991). Learning sounds (phonemes) associated with a few letters, however, does seem to lead most children to discover the alphabetic principle. Teachers can guide this process by helping children invent their own spellings and drawing children's attention to letter-sound associations as they write and read together. Later on, as children begin to read and write on their own, the alphabetic principle helps them figure out how to pronounce and write words based on the sounds associated with letters and letter combinations.

The alphabetic principle in the Growing Readers activities are organized around four topics: name recognition, name writing, letter recognition, and letter-sound correspondence.

### **Name recognition: identifying one's printed name**

A child's own printed name is an important personal entryway to literacy development. The first printed word most children learn to recognize is their own name (Clay, 1975), and the printed form a child's name is the starting point for children's own writing and their understanding of the concept of *word* (Ferreiro & Tebersosky, 1982). As they see and write their name, children begin to understand the difference between pictures and writing, and experience the flow of print from left to right. In the beginning, young children often treat all the letters in their name as one symbol that represents their name (Vallaume & Wilson, 1989). Gradually, as their perception changes, they come to view their name as a series of letters. Often, the first two letters they learn to recognize and name are the first and last letters in their name.

### **Name writing**

While young children construct a good deal of knowledge about writing well before they begin to use letter-sound relationships (Ferreiro & Tebersosky, 1982; Vernon & Ferreiro, 1999; Vernon & Ferreiro, 2000), learning to write their own name seems to be an important way that children begin to expand their concept of the role of alphabet letters (McGee & Richgels, 1989) and may be the best window we currently have on how they understand and begin to decode their written name or nametag. Their first "signatures" are scrawls and scribbles, generally one continuous form with no distinct parts or letters, indicating, for example, that they see their

written name as one continuous whole (Vallaume & Wilson, 1989). Gradually, they begin to write their name as a series of patterns that include repeated elements such as lines, balls, squiggles, and even letter-like forms indicating that now they see their name as a series of parts or elements. From here, they begin to distinguish and reproduce actual letters in their name, beginning with the first letter and generally followed by the last letter, and these letters appear in their signature. Finally, they are able to write their entire name using conventional letters (though some may be reversed or upside down), indicating that they see their name as a particular sequence of distinct parts or letters (Hildreth, 1936). (For Hildreth's developmental name-writing samples, see DeBruin-Parecki & Hohmann, 2003, pp. 6-7).

### **Letter recognition: naming alphabet letters**

Pictures draw and hold the attention of young children long before print does. Children immediately recognize pictures of familiar objects---a cat, a dog, a ball, a house--- while the printed words *cat*, *dog*, *ball*, *house* are marks on the page that hold no particular meaning for them.

When young children do begin to notice words, they generally regard them as continuous wholes because they do not yet see the individual parts or letters that make up each word (Vallaume & Wilson, 1989). Gradually, however, as children begin to understand part-whole relationships, they begin to see that their names and other personally meaningful words are made up of a unique series of marks. With support from adults they learn that each mark is called a letter, and that each letter has a distinctive shape and name. To begin to use the alphabetic principle effectively, children need to recognize and name *some* letters fairly fluently, such as the letters in their name, so their attention is free to focus on remembering the sounds associated with these letters (Adams, 1990). The first letter in their name is generally the letter preschool children most easily recognize (Bloodgood, 1999).

### **Letter-sound correspondence**

The English alphabet has a rather complex letter-sound code because each letter does not precisely match the sounds it represents and a letter can stand for more than one sound. Young children begin to break the letter-sound code by learning the names of the alphabet letters that have personal meaning to them such as the names of the letters in their names. They also explore the beginning sounds in their names and other familiar words, and in words that start with the same letter and sound **D**ameka, **d**addy, **d**inosaur leading them to an initial understanding of the fact that there is a systematic relationship between letters and sounds. Learning the sounds associated with a few letters does seem to lead most children to discover the alphabetic principle. Children may also begin to make informed guesses at reading writing familiar words like *mom* when they remember that *m* makes the /m/ sound (Ehri, 1991). Teachers guide this process by helping children invent their own spellings based on the sounds they hear in words and drawing children's attention to letter-sound associations as they read and write together. To understand the alphabetic principle, children need both phonological awareness and knowledge about how

spoken sounds are represented by letters in print (Byrne & Fielding-Barnsley, 1991; Gough & Walsh, 1991).

## **Concepts About Print**

Concepts about print define how print is organized on the page, on signs, on the screen and how print is used for reading and writing (Clay, 2000).

Through many varied experiences with books, magazines, environmental print, writing, and interactive storybook reading, young children construct an understanding of the conventions of print. For example, they learn that books have distinctive parts, are generally held right-side up, and are read from front to back. They also learn that print is different from pictures, carries a message, flows from left to right and from top to bottom, and has a beginning and an end.

Understanding these concepts about print enables children to approach books and written materials with a degree of familiarity and knowledge that will serve them well as they begin to handle and read books on their own. While preschoolers do begin to acquire early concepts about print (Neuman, 1999), children continue to acquire these concepts through 1<sup>st</sup> grade (Johns, 1980) because, it turns out, what is obvious to adults about print is less than obvious to children who may try to read the white spaces between the word, for example, or believe that reading is memorizing and so try to read a closed book (Johnston, 1997). Further, once children have formed concepts of print, their learning about letters, sounds, and words expands rapidly because they no longer have to struggle with concepts about print (McNaughton, 1995).

The Growing Readers concepts about print activities are organized around four topics: identifying book parts, orienting books, distinguishing between pictures and words, and understanding the direction of text.

### **Identifying book parts**

As children listen to and look at books with parents, teachers, and older children, and as they begin to sit down and look at books on their own, they gain basic information about books about how books are made with front and back covers, title pages, story pages, end papers, and spines how books work, and how a book lets you know right up front what it is about and what distinguishes it from other books. This is a gradual learning process. Even when we give such things a name or try to explain [them] to children, we cannot assume that our verbal explanations have taught children to use their eyes to locate, recognize, or otherwise make use of such information (Clay, 2000, p. 7).

### **Orienting books for reading**

Orienting a book for reading (front, back; top, bottom, right-side up) is a skill children learn from being read to often, examining pictures in books, looking at books on their own and

with others, and seeing others read. Very young children who still need to have books held for them are aware of books as interesting objects to be touched, patted, jabbed at, and sometimes tasted. With regular reading sessions they learn to make page turning gestures, help turn the pages, then turn pages on their own. When they are mobile, they enjoy toting books from place to place, opening them up, turning the pages, often pausing to look at and comment, handing a book to a familiar reader and issuing the command, Read! The more experience they have with books and being read aloud to, the more opportunities they have to make sense of how books physically work. While learning about book orientation begins early, it takes a considerable time to master (Clay, 2000). However, by 1<sup>st</sup> grade, most children in this country understand this concept (Johns, 1980).

### **Distinguishing between pictures and words**

The ability to read and write begins in infancy as children take in, try out, and respond to the voices and sights that catch and hold their attention. Young infants light up when a parent speaks to them, and they gaze intently at brightly colored objects and pictures. As young children become increasingly active and mobile, they explore objects with all their senses and delight in recognizing familiar people, animals, and things in pictures wherever they encounter them—pictures in books, magazines, signs, photo albums. As they learn to talk and express themselves with increasing clarity, their visual literacy—the ability to derive meaning from pictures—continues to grow as they notice more details in pictures and begin to see part-whole relationships. In fact, children begin to acquire concepts of print when they notice illustration styles and details (Kiefer, 1988). While they may read books on their own and are read to by adults, they take little notice of text and may even be convinced that the story comes from pictures alone. This is not a particular problem; preschool picture reading is an important process itself. The time preschoolers spend reading pictures is well spent, since children who have reading difficulties also have picture naming difficulties (Snowling, von Wagonenk, & Stafford, 1988; Swan & Goswami, 1997; Wolf, 1991).

As they begin to notice and attempt to write their own names, however, young children gradually begin to attend to and search out other print, to see its relationship to pictures, and to figure out that print is another way of conveying meaning. For preschoolers, note Snow, Burns, and Griffin, emergent reading routines include attending to pictures and occasionally to salient print, such as that found in illustrations or labels (1998, p. 59). Some preschool children begin to attend to the print in the main body of the text, and a few actually begin to read favorite books in a conventional manner (Anbar, 1986; Backman, 1983; Bissex, 1980; Jackson, 1991; Jackson et al., 1988; Sulzby, 1985).

### **Understanding the direction of text**

This is a fairly abstract concept for young children. While adults may occasionally point to the words as they read aloud, children construct an understanding of how text flows from one word to the next as they become writers and readers themselves (Ehri & Sweet, 1991; Ehri &

Robbins, 1992) and develop a feel for the movement of text, a concept that is not dependent on hand preference or verbal concepts of left and right (Clay, 2000). As their writing develops, it is interesting to note that even at its earliest stage, ages 3 to 3 ½, psychologist Gertrude Hildreth observes a considerable tendency toward the horizontal, and between ages 3 ½ to 4, the chief improvement here is the still greater tendency toward horizontal movement (Hildreth, 1936, p. 294). It is also common even for scribble writers to write from left of a page all the way to the right-hand edge, then return to the left side of the page and make another row of writing below the first, and so on until their list or recipe or story is complete.

### **Growing Readers Research Base: Curriculum Citations**

Two major compilations of early literacy research provide many of the references for the research upon which the Growing Readers Early Literacy Curriculum is based:

Neuman, S. B., & Dickinson, D. K. (Eds.) (2001). Handbook of Early Literacy Research. New York: Guilford Press.

Snow, C. E., Burns, M. S., & Griffin, P. (Eds.) (1998). Preventing Reading Difficulties in Young Children. Washington, DC: National Academy Press.

An alphabetical list of research references cited in this Guide appears on page XX-XX. In this list, the references are organized into six curriculum headings:

Four Key Literacy Concepts

Comprehension

Phonological Awareness

Alphabetic Principle

Concepts About Print

Small-Group Literacy Activities & Literacy-Rich Play

Child Development Approach to Literacy

### **Four Key Literacy Concepts: Comprehension, Phonological Awareness, Alphabetic Principle, Concepts About Print**

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### **Comprehension: Vocabulary, Prediction, Connection, Retelling**

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### **Phonological Awareness: Rhyming, Alliteration, Segmentation**

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