



Enhancing Phonological Awareness, Print Awareness, and Oral Language Skills in Preschool Children

PAIGE C. PULLEN AND LAURA M. JUSTICE

The preschool years are critical to the development of emergent literacy skills that will ensure a smooth transition into formal reading. Phonological awareness, print awareness, and oral language development are three areas associated with emergent literacy that play a crucial role in the acquisition of reading. This article presents an overview of these critical components of emergent literacy. The overview includes a brief review of recent research and provides strategies for developing phonological awareness, print awareness, and oral language in the preschool classroom.

The literacy concepts, knowledge, and skills developed in early childhood are excellent predictors of children's future success in reading (Adams, 1990; Donaldson, 1978; Snow, Burns, & Griffin, 1998; Whitehurst & Lonigan, 1998). Children who grow up in rich literate environments enter school with an advanced understanding of the concepts underlying reading; some of these children may, in fact, already know how to read before entering school (Adams, 1990; Dickinson & Tabors, 2001). In contrast, recent research in the field of reading has provided compelling evidence that children who start off poorly in reading typically remain poor readers throughout their schooling and beyond (Adams, 1990; Francis, Shaywitz, Stuebing, Shaywitz, & Fletcher, 1996; Juel, 1988; Stanovich, 1986; Torgesen & Burgess, 1998). Stanovich described this phenomenon as the *Matthew Effect*—the rich get richer and the poor get poorer. If we are to make a difference in the lives of children, we must provide appropriate supports and experiences during the early childhood years to prevent the development of reading difficulties.

A growing body of research has indicated that three emergent literacy factors associated with later reading achievement are (a) phonological awareness, (b) print awareness, and (c) oral language (Whitehurst & Lonigan, 1998). In fact, these areas of emergent literacy represent a significant source of the individual differences in later reading achievement (e.g., Lonigan, Burgess, & Anthony, 2000; Stuart, 1995). This article provides an overview of the research on the relationship of these emergent literacy skills to reading acquisition and describes strategies to enhance the development of each of these areas.

Precursors to Literacy: An Overview

Phonological Awareness

A powerful predictor of reading achievement that has garnered much attention over the last two decades is phonological awareness (e.g., Blachman, 1984, 2000; Bradley & Bryant, 1983; Byrne & Fielding-Barnsley, 1991; for review, see National Reading Panel [NRP], 2000). *Phonological awareness* refers to an individual's implicit and explicit sensitivity to the sublexical structure of oral language. Running speech comprises various phonological units ranging in size from large (words, syllables) to small (morphemes, phonemes). Children gradually become aware of the phonological composition of spoken language, with awareness moving from larger to smaller units; the most sophisticated level of phonological awareness represents the ability to analyze oral language at the level of the phoneme (Lane, Pullen, Eisele, & Jordan, 2002; Lonigan et al., 2000). A lack of this awareness may impede an individual's ability to acquire accurate and flu-



ent word reading skills, and as such, is a primary source of difficulty for children with reading disabilities (Torgesen, Wagner, & Rashotte, 1997). Convergent evidence from both correlational and training studies has shown that phonological awareness is critical to the acquisition of early decoding skills (e.g., Ball & Blachman, 1991; Brady, Fowler, Stone, & Winbury, 1994; Byrne & Fielding-Barnsley, 1991; Rack, Snowling, & Olsen, 1992; Stanovich, 1992; Torgesen & Wagner, 1998).

Although phonological awareness is necessary to the development of skilled decoding, it is not sufficient for acquiring the ability to read words (NRP, 2000; Stanovich, 1992; Tunmer, Herriman, & Nesdale, 1988). In addition to phonological awareness, understanding of the alphabetic principle is necessary for developing word recognition and decoding skills (Chard, Simmons, & Kameenui, 1998); however, the alphabetic principle makes little sense to children with deficits in phonological awareness (Uhry & Shepherd, 1997). The *alphabetic principle* refers to the systematic relationship between letters and sounds; children must understand that the individual phonemes in words are represented by letters and that those sounds can be analyzed and synthesized in the decoding process (Nicholson, 1997). Children without this understanding are unable to develop adequate word recognition and decoding abilities.

The preschool period is an important source of development for phonological awareness (Ball & Blachman, 1991; Lonigan et al., 2000). In fact, very young preschool children's performance on phonological awareness tasks has been shown to be a robust predictor of early reading achievement (Blachman, 2000; Bryant, Bradley, Maclean, & Crossland, 1989; Lonigan et al., 2000; for review, see Scarborough, 1998). The development of phonological awareness occurs along a continuum reflecting a transition from shallow to deep levels. In other words, children

gradually move from shallow to more heightened levels of awareness, with awareness of the phoneme representing the most sophisticated level of skill (Stanovich, 1992). Accordingly, preschool phonological awareness indicators examine children's performance on shallow tasks, that is, tasks examining sensitivity to large phonological features (e.g., words, syllables).

In the earliest stages of development, phonological awareness is best represented by children's abilities to produce and comprehend rhymes (Chaney, 1992; Goswami & East, 2000; Maclean, Bryant, & Bradley, 1987) and to sort words on the basis of beginning, middle, or ending sounds (Bradley & Bryant, 1983; Lonigan et al., 2000; Maclean et al., 1987). Additional indicators of the advent of phonological awareness include word awareness (understanding that sentences contain words) and syllable awareness (understanding that words comprise syllables). Promoting the development of these foundational aspects of phonological awareness in young children may help avoid "a causal chain of negative effects" initiated by the absence of phonological sensitivity (Stanovich, 1986, p. 364).

Print Awareness

In addition to phonological awareness, young children's knowledge of the forms and functions of written language influences their later reading attainment (Adams, 1990; Badian, 2001; Stuart, 1995; Weiss & Hagen, 1988). This knowledge is acquired by most children during the preschool years and sets the stage for eventual reading achievement. Three aspects of print awareness have received particular attention: print concepts, environmental print recognition, and alphabet knowledge.

According to numerous research studies, assessments measuring a child's understanding of print concepts have successfully predicted future reading success (e.g., Badian, 2001; Clay, 1993; Stuart, 1995; Tunmer et al., 1988; for review, see Adams, 1990, or Scarborough, 1998). Furthermore, awareness of print concepts has been related to other measures of reading readiness, such as phonological awareness. According to Adams (1990) and to Mason (1980), a child's awareness of the forms, functions, and uses of print provide the foundation upon which reading and writing abilities are built.

Children begin building concepts about print through literacy-based interactions with the adults in their lives at a very young age. Infants as young as 8 months of age begin handling books, turning pages, and actually babbling in a "reading-like" manner (see Snow et al., 1998). This foundation, however, is not built automatically. It requires active participation with adults in print-focused interactions that are age appropriate in a cognitive, emotional, social, and physical sense (Adams, 1990; Snow et al., 1998).

Indeed, it is during the preschool years that children come to know that print conveys meaning, and they ac-

quire an increasingly sophisticated understanding of print forms (Justice & Ezell, 2001). Through experiences in being read to, children move beyond this understanding to a more comprehensive view of "book knowledge." Clay (1991) asserted that children who have heard many stories read to them develop awareness that book language, or literary forms of language, is different from spoken language. Clay's assertion was supported in a series of recent applied studies by Justice and Ezell (2000, 2002; Justice, Weber, Ezell, & Bakeman, 2002), which showed that adult-child shared storybook reading experiences that involve discussion about print increases children's knowledge of important print concepts.

A child with well-developed print concepts knows several essential points that are necessary to reading acquisition. For example, a child may know that

1. the print tells the story,
2. text on a page is read from left to right,
3. progression through text moves from the top of the page to the bottom of the page,
4. when one page of text is read, the story continues on the following page, and
5. the white spaces between groups of letters represent a break between spoken words or word boundaries (Clay, 1993; Justice & Ezell, 2001).

A student's knowledge about concepts of print has been found to support reading acquisition (Clay, 1993) and to moderately predict reading ability in the primary grades (for review, see Scarborough, 1998, or Snow et al., 1998).

In addition to knowledge about the concepts of print, children's interaction with environmental print is another key aspect of the attainment of print awareness. The knowledge that a symbol can stand for an actual object is a prerequisite to understanding the sound-symbol relationship of the alphabetic principle. For example, as described by Snow et al. (1998), very young children recognize the golden arches as a representation of McDonald's®. This is believed to be an important first step in understanding the concept of print-to-speech mapping, critical to attainment of the alphabetic principle. Not until children are able to move from understanding that print is like pictures and that written words comprise letters that map to speech sounds, will they be able to begin visual word recognition (Snow et al., 1998). Consequently, although environmental print is a necessary step in reading attainment, children must move beyond that understanding to an understanding of the alphabetic principle.

Another critical area of emergent literacy is letter knowledge, which is a reliable and particularly robust predictor of a child's later reading achievement (Adams, 1990; Catts, Fey, Zhang, & Tomblin, 1999; Scanlon & Vellutino, 1996; Whitehurst & Lonigan, 1998). In fact, knowl-

edge of the alphabet has been described as the best predictor of future reading attainment. In a study of 1,000 kindergarten students, Scanlon and Vellutino (1996) found that 83% of the children would have been correctly identified as being successful or having difficulty with learning to read using a letter identification assessment. Although simple letter recognition can be as successful a predictor of future reading success compared to any other assessment, Adams (1990) posits that it is much more than simply naming the letters that supports reading acquisition—an overall familiarity with the letters and their sounds is necessary in the attainment of early reading skills.

Oral Language

Oral language proficiency has also long been associated with later reading achievement, particularly in the area of reading comprehension. Prediction studies have consistently shown that prekindergarten and kindergarten children's performance on vocabulary (semantic) and grammar (syntax) tasks accounts for a significant amount of variance in later elementary-grade reading ability (e.g., Catts et al., 1999, 2001; for review, see Scarborough, 1998). Likewise, investigations of poor readers' oral language abilities have shown semantic-syntactic language abilities to represent particular, albeit occasionally subtle, areas of weakness (e.g., Bishop & Adams, 1990; Catts et al., 2001; Scarborough, 1990).

In a particularly interesting and innovative study of oral language precursors to later reading achievement, Scarborough (1990) followed 52 children from approximately 2 years of age through second grade and conducted six evaluations of oral language skills (e.g., vocabulary knowledge, grammatical abilities) when children were between 2 and 5 years of age. Thirty-four children were at significant risk for developing reading problems due to familial incidence of reading disability. Of these children, 22 (65%) developed substantial reading problems by second grade. Detailed examination of these 22 children's oral language development over the preschool years showed a relatively greater number of grammatical errors at 2 years of age and poorer receptive and expressive vocabulary knowledge at 4 years, relative to those children who did not develop reading problems.

To this end, Scarborough (1990) has argued that preschool oral language difficulties represent an early manifestation, or symptom, of reading disability. This assertion, which has been supported by more recent studies (e.g., Lombardino, Riccio, Hynd, & Pinheiro, 1997), holds true even for children who are not at explicit risk for developing reading problems (see Snow et al., 1998). Generally speaking, children who show early difficulties with the development of vocabulary knowledge and grammatical skills are more likely to experience literacy problems, relative to children acquiring oral language, according to expected milestones. Taken together, such findings argue

the need for promoting semantic-syntactic proficiency during the critical years of early childhood.

Strategies for Promoting Emergent Literacy

Phonological Awareness Activities

Support for phonological awareness should be integrated into the everyday activities of the preschool classroom. Indeed, phonological awareness for children at particular risk for early literacy achievement may best be encouraged through formalized lessons. That is, for young children with limited opportunities for language play at home, or who are at risk for developing a reading disability, explicit instruction in phonological awareness should be provided daily. *Explicit* does not refer to drill-like activities but rather the structuring of engaging, meaningful, and enjoyable activities that help children to actively attend to the phonological structure of oral language. Activities should focus on those skills acquired during the preschool years, which have been identified as predictive of later reading achievement. These include activities to promote rhyme and alliteration awareness, as well as those designed for promoting blending and segmenting skills. Blending and segmenting skills should begin at the word and syllable level and for older and more capable preschool children may include activities that help children begin developing skills at the onset-rime and phoneme levels.

For children in the emergent stages of literacy development, it is critical to realize that exposure long precedes mastery; increasing explicit engagement in and exposure to phonological awareness activities is more important than relentlessly pursuing mastery of such concepts. Likewise, it is also important to note that children's attainment of phonological awareness moves from shallow to increasingly deep levels of awareness; fostering attention to larger phonological units, such as words and syllables, precedes awareness of phonemes.

RHYMING AND ALLITERATION. Both rhyme and alliteration awareness reflect shallow levels of phonological awareness, based on the perspective that awareness ranges from shallow to deep levels. Preschool children acquire shallow sensitivity to phonological structure of language, which precedes and develops into eventual deep understanding. In this way, rhyme and alliteration awareness can be viewed as foundational to later attainment of deep levels of phonological awareness.

Both rhyme and alliteration reflect children's ability to focus sublexically on the phonological structure of spoken language, that is, to consider the sound structure of language as separate from meaning. *Rhyme* refers to two words' sharing of a rime structure (the part of a word

following the onset, as in *at* in *cat*, *flat*, or *splat*), whereas *alliteration* refers to two words' sharing of a phoneme in the initial, medial, or final position (as with *s* in *sat* and *sun* or *m* in *plum* and *ram*).

Rhyme and alliteration can be difficult concepts for children to acquire, especially for young children with weak oral language skills (Boudreau & Hedberg, 1999) or limited oral language experiences. Explicit, repeated instruction may be necessary to promote the development of these skills. Rhyme instruction should begin with easier tasks such as rhyme recognition and move to more difficult tasks such as rhyme generation. The same holds true for alliteration awareness. Multiple exposures and opportunities should be provided. Table 1 provides specific examples of rhyming activities appropriate for young children, and Table 2 provides examples of alliteration activities.

BLENDING AND SEGMENTING ACTIVITIES. Although rhyming activities are important in the development of phonological awareness, alone these activities may not be adequate in preparing young children for the task of

learning to read (Blachman, 2000). In numerous studies of nonreading children in kindergarten, blending and segmenting activities have been shown to improve the skills of children with low phonological awareness (Fox & Routh, 1984; O'Connor, Jenkins, & Slocum, 1995; Torgesen, Morgan, & Davis, 1992). For example, Torgesen and associates investigated the effects of blending and segmenting tasks for children in kindergarten with low levels of phonological awareness. Children were assigned to one of three intervention groups: (a) blending tasks, (b) blending and segmenting tasks, and (c) language experience (no phonological awareness). Children who received instruction in blending and segmenting performed better on phonological awareness tasks and on a reading analog task than either of the other two groups.

The success demonstrated by nonreaders who received blending and segmenting instruction on reading analog tasks may be because these phonological skills are most similar to reading and spelling. Children utilize blending skills as they learn to decode words and learn segmenting skills in spelling words (NRP, 2000). Instruction at the preschool level necessarily must begin with

Table 1. Activities to Promote Rhyming Abilities

Activity	Instruction
Read aloud rhyming	Rhyming activities can be effectively embedded in read aloud time. Select books with rhyme patterns. See appendix for suggested titles.
Explicit instruction in concept of rhyme	Often, children are told that words that rhyme sound the same at the end. This can be confusing, because <i>seen</i> and <i>sun</i> sound the same at the end. Words that rhyme sound the same in the middle and at the end. Help students isolate the rime of words to develop an understanding of rhyming. For example, say " <i>Fat</i> has <i>at</i> , does <i>bat</i> have <i>at</i> ? Does <i>ban</i> have <i>at</i> ?" (Lane & Pullen, 2004).
Sorting rhymes	Select a variety of objects (e.g., small plastic toys) to use for sorting rhymes and place them in a bag. Begin with three target rime patterns. Have the child pull a toy from the bag and sort based on the rhyme pattern.
Rhyme pockets	Create a picture card file by gluing pictures on the front of 3" x 5" index cards. Make a rhyming pockets game board using library pockets and poster board. Place a picture on the front of the library pocket (use Velcro to make board versatile). The child then takes a stack of picture cards and matches the rhymes by placing the picture card into the corresponding library pocket (Lane & Pullen, 2004).

Table 2. Activities to Promote Alliteration

Activity	Teacher's role
Alliterative sentences	Recite a sentence with alliteration (e.g., <i>Peter Piper picked a peck of pickled peppers</i>). Ask children to help identify the sound that is at the beginning of the words in that sentence.
Sound sleuth	Play word games to help children begin to recognize beginning sounds in words. Give children a target word, such as <i>boat</i> , then ask a child to identify the word that has the same beginning sound (e.g., <i>cap</i> , <i>bird</i> , or <i>song</i>).
Sound sorts	Provide children with a stack of picture cards or small plastic toys. Have each child sort the picture cards or toys based on the beginning sound.

Table 3. Activities to Promote Blending and Segmenting Abilities

Activity	Teacher's role
Sound tapping	Preschool children love to play with percussion instruments such as sand blocks, cymbals, and rhythm sticks. These instruments can be used to segment the units of sounds in sentences and words. As the teacher reads a short sentence aloud, the child can tap for each word in the sentence. Likewise, given a multisyllable word, the child can segment the word into syllables by tapping the percussion instruments (Lane & Pullen, 2004).
Bead counting	Bead counting can be used with individual children, small groups, or large groups. String six large wooden beads of a single color on thick cord (see Figure 1). Ask children to count the words in sentences or the syllables in words and to move a bead, one word or syllable at a time. After children complete the targeted segmenting task, ask them to hold up their bead strings. The teacher can quickly assess the children's responses (Lane & Pullen, 2004; Sindelar, Lane, Pullen, & Hudson, 2002). This activity can be modified for the various levels of phonological awareness as children progress in phonological awareness.
Nursery rhyme sound blending	Recite a common nursery rhyme to your class. Segment some words into syllables or onset-rime units. Pause and ask children to blend the sounds together to make the whole word. For example, " <i>Jack be nimble, Jack be quick, Jack jump over the candle st-ick. What did Jack jump over?</i> " Children would blend the onset and rime together to form the word <i>stick</i> .

easier blending tasks, such as blending syllables or onsets and rimes into words. Segmenting tasks can therefore focus on tapping and counting syllables in words or words in sentences or segmenting words into onsets and rimes. Table 3 provides specific examples of activities to promote blending and segmenting skill.

Print Awareness Activities

Two powerful ways to support the development of print awareness in young children is through adult-child shared storybook reading and print-enriched play. Children benefit in many ways from daily doses of such opportunities (Justice & Ezell, 2002; Neuman & Roskos, 1990; Whitehurst et al., 1988); in addition, these interactions can be explicitly structured to accelerate children's print awareness.

ADULT-CHILD SHARED STORYBOOK READING. One strategy for encouraging the development of print concepts, environmental print awareness, and alphabet knowledge is by increasing children's participation in reading interactions that feature books with salient print. Salient print features include large narrative print, redundant text, and contextualized print embedded within the illustrations (Justice & Kaderavek, 2002). Children are more likely to visually attend to print when they are reading books in which print is a salient feature (Justice & Lankford, 2002). Reading of electronic storybooks, in which print is made particularly salient through graphic means (e.g., highlighted links), appears to help children internalize knowledge of print concepts and features (de Jong & Bus, 2002). Additionally, when reading typical storybooks, adults can encourage children to attend to print features (including print embedded within illustrations)

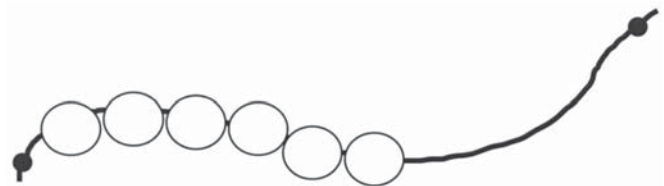


Figure 1. Bead strings are useful for segmenting words into syllables or phonemes.

by asking questions, making comments about print, and tracking the print while reading.

Studies have shown that adult use of these print-referencing behaviors can be a powerful strategy for enhancing preschool children's print awareness. For instance, Justice and Ezell (2002) recently used these print-referencing strategies (i.e., talking about print, tracking the print) during an 8-week reading program for 3- to 5-year-old children in Head Start. Children made substantial gains on a variety of print awareness measures, including environmental print recognition (for words occurring in the storybooks), alphabet knowledge, and print concepts. Accelerated growth in print awareness has also been observed when parents use these print-referencing strategies during home-based reading interactions (Justice & Ezell, 2000). However, despite the benefits of doing so, adults are unlikely to reference print, verbally or nonverbally, when reading with children (Ezell & Justice, 2000); therefore, teachers and parents may need instruction in structuring book reading interactions to include an explicit focus on print.

PRINT-ENRICHED PLAY. Children in preschool classrooms frequently engage in play-based interactions, in-

Table 4. Literacy-Enriched Play Materials for Centers

Center	Materials	Teacher's role
Block Center	Clipboards with paper and pencil Labels for block containers Building plans with diagrams (i.e., "blueprints") Books about construction	Children will learn important text structure features by following plans for buildings. Provide simple step-by-step directions for children to follow. Encourage children to write about the buildings they have created on the clipboards provided in the center.
Restaurant	Menus Pens Order notepads Nametags Cookbooks Coupons	A restaurant center provides opportunities for children to learn about print and engage in meaningful writing activities.
Post Office	Envelopes Pens Pencils Stationery Stickers Mail cubby for each child Mailbox	Create a class mail center and have "mail time" during morning circle. Encourage parents, older book buddies, and resource teachers to write to your students. Parent volunteers can guide students' learning in the mail center during the school day and help them reply to their mail.
Houskeeping	Telephone book Message pads Pens and pencils Shopping list pads Cookbooks Magazines Recipe cards (with recipes) Blank recipe cards	The housekeeping center is common to preschool classrooms and can be enhanced by adding a few literacy-related materials.

cluding dramatic play. A number of studies have shown that integrating literacy artifacts into children's play settings can encourage children's print awareness (e.g., Neuman & Roskos, 1990, 1992). Such artifacts may include functional signs, such as building labels (e.g., *grocery store*, *post office*), as well as literacy tools (e.g., paper, pens, books). Children will naturally integrate these artifacts into their play at increasing rates when made available.

An additional strategy for increasing children's print awareness through play is to use adult mediation. Applied studies have indicated that adults can play an important

role in encouraging children to embed literacy artifacts into their play and that this can produce more powerful effects on print awareness relative to simply providing increased access to such artifacts (Christie & Enz, 1992; Neuman & Roskos, 1993). Adults can guide children in how to use artifacts during play (e.g., writing a shopping list prior to going to the grocery store); these mediated opportunities provide additional support for children's increased understanding of the forms and functions of written language. Table 4 provides examples of materials that can be added to classroom centers to increase literacy-related play.

Oral Language Activities

The intricate and robust association between oral language and other aspects of emergent literacy—namely, phonological awareness and print awareness—argues the importance of helping children to develop a strong oral language foundation. As previously described, critical oral language domains include semantics and syntax. The preschool years provide the developing child a brief and singularly critical window of opportunity to develop sophisticated oral language skills; at the end of the preschool years, children's rapid pace of oral language growth slows, as many adults who have attempted to acquire a foreign language know. Importantly, emergent and conventional literacy abilities are built upon this oral language foundation.

Two approaches identified in the language intervention literature that may be particularly useful for enhancing preschool children's oral language performance are focused stimulation and interactive storybook reading. These approaches are described in the following sections.

FOCUSED STIMULATION. Children acquire language proficiency through their interactions with others, such as parents, teachers, and peers. Indeed, despite their innate biological propensity for language acquisition, without environmental input children will not develop language to any substantial degree. The quality and quantity of input experienced by young children serve as important sources of variation in vocabulary and syntactic development (Baumwell, Tamis-LeMonda, & Bornstein, 1997; Bloom, 1993; Tamis-LeMonda, Bornstein, & Baumwell, 2001).

Adults interacting with young children can emphasize the use of various input strategies known to be particularly influential for oral language growth. These input strategies help children to map the associations between the environment and particular linguistic forms and functions; their use provides substantial opportunities for children to hear oral language models and to produce increasingly sophisticated productions of their own. The specific strategies discussed here can be integrated into myriad daily activities, including classroom routines (e.g., snack time) and dramatic play interactions (Fey, Cleave, Long, & Hughes, 1993; Girolametto, Pearce, & Weitzman, 1996):

1. *Self-talk* and *parallel talk* are two adult-input strategies that provide frequent models of key linguistic forms and labels; these models are incorporated into children's common daily routines. *Self-talk* refers to an adult's ongoing description of her own activities or thoughts (e.g., I am washing the baby); with *parallel talk*, the adult provides an ongoing description of the child's activities (e.g., You are putting on the diaper). *Self-talk* and *parallel talk* can be structured

to provide increased exposure to specific language concepts, for instance, adjectival comparisons (e.g., big vs. little), syntactic devices (e.g., interrogatives, pronouns, auxiliary verbs, elaborated nouns), and discourse events (e.g., questions vs. comments vs. requests).

2. *Repetitions*, in which children's utterances are followed by the adult's exact reproduction of what the child said (e.g., Child: Boy eating; Adult: Boy eating), also provide children with increased exposure to language use and help children recognize the associations between their own language use and their communicative environment. Repetitions can be coupled with praise and encouragement (e.g., You're right! Boy eating) to show children the importance and emerging accuracy of their communicative behaviors.
3. *Expansions* occur when children's utterances are followed by the adult's production of a slightly more sophisticated rendition (e.g., Child: Boy eating. Adult: The boy is eating). The adult's expansion provides one additional element of semantic or syntactic information beyond that which was provided in the child's utterance. By their very nature, expansions provide children a language model that is only slightly beyond their current level of linguistic independence; therefore, expansions serve as an excellent stimulation strategy. Expansions may be coupled with requests for elaboration to encourage the child's exposure to and use of more sophisticated linguistic productions (e.g., Child: Walking. Adult requests elaboration: Who walking? Child: Boy walking. Adult expands: The boy is walking!).

Again, it is important to recognize that children acquire increasingly refined knowledge of oral language forms and labels through exposure. Exposure that is lacking in quality or quantity, as may occur when children are exposed to little language or to language of little variation, can have an inverse relationship with the rate of oral language acquisition. To this end, it is particularly relevant to point out that children do not need to produce language to acquire language; exposing children to linguistic models of high quality is effective on its own. What this means is that children do not need to imitate language models, nor is there any evidence showing the benefit of young children's participation in language drills. Indeed, these kinds of activities do little to promote oral language expertise.

INTERACTIVE READING. In addition to accelerating children's print awareness, as discussed previously in this article, storybook reading has been found to be a powerful enhancer of oral language proficiency, particularly in the area of vocabulary development (e.g., Bus, van Ijzendoorn, & Pellegrini, 1995; Ninio, 1983; Pellegrini, Galda, Jones,

& Perlmutter, 1995; Scarborough & Dobrich, 1994; Teale, 1986). Adult-child storybook reading interactions have been used in a number of recent studies as a deliberate context for encouraging children's oral language proficiency, as seen in a research program conducted by Whitehurst and his colleagues (e.g., Crain-Thoreson & Dale, 1999; Whitehurst et al., 1988, 1994).

These studies, as well as several others, have unequivocally shown that adults' reading with young children can incorporate specific interactive strategies into book reading interactions to encourage oral language development. Although book reading by itself has been positively associated with oral language achievements (see Scarborough & Dobrich, 1994), the following strategies, when incorporated directly into reading interactions, appear to accelerate the pace of language growth. Such strategies are designed to

- provide children with quality inputs of oral language labels, forms, and functions;
- encourage children's active participation in shared reading events; and
- scaffold children's gradual use of more sophisticated productions.

The research program conducted by Whitehurst and colleagues (e.g., see Whitehurst et al., 1988, 1994) has shown adults' use of the following behaviors during storybook reading to be effective for advancing oral language skills in preschool children, including those who are at risk. Use of these strategies has been shown to influence vocabulary knowledge as well as mean length of utterance, a general index of syntactic development.

1. **Repetitions:** The adult repeats what the child says verbatim.
2. **Expansions:** The adult repeats what the child says but adds additional linguistic information.
3. **Open-Ended Questions:** The adult asks the child questions requiring more than a yes/no response, such as *who* and *what* questions.
4. **Praise:** The adult gives the child positive feedback regarding participation in the book reading activity.

Senechal and associates (e.g., Hargrave & Senechal, 2000; Senechal, 1997; Senechal & Cornell, 1993; Senechal, LeFevre, Thomas, & Daley, 1998; Senechal, Thomas, & Monker, 1995), as well as other researchers in child language acquisition (Robbins & Ehri, 1994; Wasik & Bond, 2001), have identified additional strategies that can be used to promote oral language achievement, particularly vocabulary, in young children within the storybook reading context. A summary of these techniques is provided below:

1. **Active Participation:** Active participation occurs when children are asked to name and point to items

with novel names occurring in illustrations; this is more powerful to oral language growth than simply hearing new words spoken in the context of a story.

2. **Repeated Readings:** Ongoing exposure to new words through repeated storybook readings positively influences children's receptive vocabulary skills; children are more likely to acquire words that they have heard repeatedly.
3. **Story Props:** Providing children with opportunities to interact with props associated with particular stories (e.g., musical instruments for a story involving a musician) increases the likelihood that children will acquire new words associated with the stories.

Summary

The preschool years are critical to the development of emergent literacy skills that will help prevent later reading problems. Early literacy skills, such as phonological awareness and letter knowledge, represent the best predictors of later achievement in reading (see Adams, 1990; Snow et al., 1998), and oral language is highly correlated with emergent literacy knowledge. Parents and teachers of preschool children play an important role in helping to develop these skills, and fortunately, activities that promote phonological awareness, oral language development, and print awareness can be easily incorporated into preschool activities at home and at school.

Throughout the school day, teachers should look for opportunities to incorporate activities that promote emergent literacy skills. Circle time provides the opportunity to play group games that develop phonological awareness; share big books, focusing on print concepts; and engage children in meaningful conversation that develops oral language. Parent volunteers are an excellent resource for shared storybook reading; train volunteers to engage in storybook reading that promotes oral language development and print awareness. Centers throughout the preschool classroom can incorporate literacy-related props, and parents and teachers can guide children's play in meaningful ways. Incorporating activities that promote phonological awareness, print concepts, and oral language development can enhance the preschool experience for young children. The activities presented in this article provide opportunities for parents and teachers of young children to capitalize on this critical learning period and help ensure children a smooth transition into formal reading.

ABOUT THE AUTHORS

Paige C. Pullen, PhD, is an assistant professor in curriculum, instruction, and special education at The University of Virginia. Her current interests include early literacy development and

learning disabilities. **Laura M. Justice**, PhD, is an assistant professor in curriculum, instruction, and special education at The University of Virginia. Her current interests include early literacy development and communication disorders. Address: Paige C. Pullen, University of Virginia, PO Box 400273, Charlottesville, VA 22904-4273.

AUTHORS' NOTE

Several of the phonological awareness activities described in this manuscript are based on collaboration between the first author and Dr. Holly B. Lane at the University of Florida.

REFERENCES

- Adams, M. J. (1990). *Beginning to read: Thinking and learning about print*. Cambridge: MIT Press.
- Badian, N. A. (2001). Phonological and orthographic processing: Their roles in reading prediction. *Annals of Dyslexia*, 51, 179–202.
- Ball, E. W., & Blachman, B. A. (1991). Does phoneme awareness training in kindergarten make a difference in early word recognition and developmental spelling? *Reading Research Quarterly*, 26, 49–66.
- Baumwell, L., Tamis-LeMonda, C. S., & Bornstein, M. H. (1997). Maternal verbal sensitivity and child language comprehension. *Infant Behavior and Development*, 20, 247–258.
- Bishop, D. V. M., & Adams, C. (1990). A prospective study of the relationship between specific language impairment, phonological disorders, and reading impairment. *Journal of Speech and Hearing Research*, 38, 446–462.
- Blachman, B. A. (1984). Relationship of rapid naming ability and language analysis skill to kindergarten and first grade reading achievement. *Journal of Educational Psychology*, 76, 610–622.
- Blachman, B. A. (2000). Phonological awareness. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of reading research* (Vol. 3, pp. 483–502). Mahwah, NJ: Erlbaum.
- Bloom, L. (1993). *The transition from infancy to language*. New York: Cambridge University Press.
- Boudreau, D. M., & Hedberg, N. L. (1999). A comparison of early literacy skills in children with specific language impairment and their typically developing peers. *American Journal of Speech-Language Pathology*, 8, 249–260.
- Bradley, L., & Bryant, P. E. (1983). Categorizing sounds and learning to read—A causal connection. *Nature*, 301, 419–421.
- Brady, S., Fowler, A., Stone, B., & Winbury, N. (1994). Training phonological awareness: A study with inner-city kindergarten children. *Annals of Dyslexia*, 44, 26–59.
- Bryant, P. E., Bradley, L., Maclean, M., & Corossland, J. (1989). Nursery rhymes, phonological skills and reading. *Journal of Child Language*, 16, 407–428.
- Bus, A. G., van Ijzendoorn, M. H., & Pellegrini, A. D. (1995). Joint book reading makes for success in learning to read: A meta-analysis on intergenerational transmission of literacy. *Review of Educational Research*, 65, 1–21.
- Byrne, B., & Fielding-Barnsley, R. (1991). Evaluation of a program to teach phonemic awareness to young children. *Journal of Educational Psychology*, 83, 451–455.
- Catts, H. W., Fey, M. E., Zhang, X., & Tomblin, J. B. (1999). Language bases of reading and reading disabilities: Evidence from a longitudinal investigation. *Scientific Studies of Reading*, 3, 331–362.
- Catts, H. W., Fey, M. E., Zhang, X., & Tomblin, J. B. (2001). Estimating the risk of future reading difficulties in kindergarten children: A research-based model and its clinical instrumentation. *Language, Speech, and Hearing Services in Schools*, 32, 38–50.
- Chaney, C. (1992). Language development, metalinguistic skills, and print awareness in 3-year-old children. *Applied Psycholinguistics*, 13, 485–514.
- Chard, D. J., Simmons, D. C., & Kaméenui, E. J. (1998). *Understanding the primary role of word recognition in the reading process: Synthesis of research on beginning reading*. Retrieved November 18, 2002, from <http://darkwing.uoregon.edu/~ncite/reading/WordSyn.html>
- Christie, J. F., & Enz, B. (1992). The effects of literacy play interventions on preschoolers' play patterns and literacy development. *Early Education and Development*, 3, 205–220.
- Clay, M. M. (1991). Introducing a new storybook to young readers. *The Reading Teacher*, 45, 264–273.
- Clay, M. M. (1993). *Reading recovery: A guidebook for teachers in training*. Portsmouth, NH: Heineman.
- Crain-Thoreson, C., & Dale, P. S. (1999). Enhancing linguistic performance: Parents and teachers as book reading partners for children with language delays. *Topics in Early Childhood Special Education*, 19, 28–39.
- de Jong, M. T., & Bus, A. G. (2002). Quality of book reading matters for emergent readers: An experiment with the same book in a regular or electronic format. *Journal of Educational Psychology*, 94, 145–155.
- Dickinson, D. K., & Tabors, P. O. (2001). *Beginning literacy with language*. Baltimore: Brookes.
- Donaldson, M. (1978). *Children's minds*. New York: Norton.
- Ezell, H. K., & Justice, L. M. (2000). Increasing the print focus of shared reading interactions through observational learning. *American Journal of Speech-Language Pathology*, 9, 36–47.
- Fey, M. E., Cleave, P. L., Long, S. H., & Hughes, D. L. (1993). Two approaches to the facilitation of grammar in children with language impairment: An experimental evaluation. *Journal of Speech and Hearing Research*, 36, 141–157.
- Fox, B., & Routh, D. (1984). Phonemic analysis and synthesis as word-attack skills: Revisited. *Journal of Educational Psychology*, 76, 1059–1064.
- Francis, D., Shaywitz, S., Stuebing, K., Shaywitz, B., & Fletcher, J. (1996). Developmental lag versus deficit models of reading disability: A longitudinal, individual growth curves analysis. *Journal of Educational Psychology*, 88(1), 3–17.
- Girolametto, L., Pearce, P. S., & Weitzman, E. (1996). Interactive focused stimulation for toddlers with expressive vocabulary delays. *Journal of Speech and Hearing Research*, 39, 1274–1283.
- Goswami, U., & East, M. (2000). Rhyme and analogy in beginning reading: Conceptual and methodological issues. *Applied Psycholinguistics*, 21, 63–93.
- Hargrave, A. C., & Senechal, M. (2000). A book reading intervention with preschool children who have limited vocabularies: The benefits of regular reading and dialogic reading. *Early Childhood Research Quarterly*, 15, 75–90.
- Juel, C. (1988). Learning to read and write: A longitudinal study of 54 children from first through fourth grades. *Journal of Educational Psychology*, 80, 437–447.
- Justice, L. M., & Ezell, H. K. (2000). Enhancing children's print and word awareness through home-based parent intervention. *American Journal of Speech-Language Pathology*, 9, 257–269.
- Justice, L. M., & Ezell, H. K. (2001). Written language awareness in preschool children from low-income households: A descriptive analysis. *Communication Disorders Quarterly*, 22, 123–134.
- Justice, L. M., & Ezell, H. K. (2002). Use of storybook reading to increase print awareness in at-risk children. *American Journal of Speech-Language Pathology*, 11, 17–29.
- Justice, L. M., & Kaderavek, J. (2002). Using shared storybook reading to promote emergent literacy. *Teaching Exceptional Children*, 34, 8–13.
- Justice, L. M., & Lankford, C. (2002). *Preschool children's visual attention to print during storybook reading*. Manuscript in review.
- Justice, L. M., Weber, S., Ezell, H. K., & Bakeman, R. (2002). A sequential analysis of children's responsiveness to parental references

- to print during shared storybook reading. *American Journal of Speech-Language Pathology*, 11, 30–40.
- Lane, H. B., & Pullen, P. C. (2004). *Phonological awareness assessment and instruction: A sound beginning*. Needham Heights, MA: Allyn & Bacon.
- Lane, H. B., Pullen, P. C., Eisele, M. R., & Jordan, L. (2002). Preventing reading failure: Phonological awareness assessment and instruction. *Preventing School Failure*, 46, 11–15.
- Lombardino, L. J., Riccio, C. A., Hynd, G. W., & Pinheiro, S. B. (1997). Linguistic deficits in children with reading disabilities. *American Journal of Speech-Language Pathology*, 6, 71–78.
- Lonigan, C. J., Burgess, S. R., & Anthony, J. L. (2000). Development of emergent literacy and early reading skills: Evidence from a latent-variable longitudinal study. *Developmental Psychology*, 36, 596–613.
- Maclean, M., Bryant, P., & Bradley, L. (1987). Rhymes, nursery rhymes, and reading in early childhood. *Merrill-Palmer Quarterly*, 33, 255–281.
- Mason, J. M. (1980). When do children begin to read: An exploration of four year old children's letter and word reading competencies. *Reading Research Quarterly*, 15, 203–227.
- National Reading Panel. (2000). *A report of the National Reading Panel: Teaching children to read*. Washington, DC: National Institute of Child Health and Human Development.
- Neuman, S. B., & Roskos, K. (1990). Play, print, and purpose: Enriching play environments for literacy development. *The Reading Teacher*, 44, 214–221.
- Neuman, S. B., & Roskos, K. (1992). Literacy objects as cultural tools: Effects on children's literacy behaviors in play. *Reading Research Quarterly*, 27, 202–225.
- Neuman, S. B., & Roskos, K. (1993). Access to print for children of poverty: Differential effects of adult mediation and literacy-enriched play settings on environmental and functional print tasks. *American Educational Research Journal*, 30, 95–122.
- Nicholson, T. (1997). Closing the gap on reading failure: Social background, phonemic awareness, and learning to read. In B. Blachman (Ed.), *Foundations of reading acquisition and dyslexia: Implications for early intervention* (pp. 381–408). Mahwah, NJ: Erlbaum.
- Ninio, A. (1983). Joint book reading as a multiple vocabulary acquisition device. *Developmental Psychology*, 19, 445–451.
- O'Connor, R., Jenkins, J., & Slocum, T. (1995). Transfer among phonological tasks in kindergarten: Essential instructional content. *Journal of Educational Psychology*, 87, 202–217.
- Pellegrini, A. D., Galda, L., Jones, I., & Perlmutter, J. (1995). Joint reading between mothers and their Head Start children: Vocabulary development in two text formats. *Discourse Processes*, 19, 441–463.
- Rack, J. P., Snowling, M. J., & Olsen, R. K. (1992). The nonword reading deficit in developmental dyslexia: A review. *Reading Research Quarterly*, 27(1), 29–53.
- Robbins, C., & Ehri, L. C. (1994). Reading storybooks to kindergarteners helps them learn new vocabulary words. *Journal of Educational Psychology*, 86, 56–64.
- Scanlon, D. M., & Vellutino, F. R. (1996). Prerequisite skills, early instruction, and success in first grade reading: Selected results from a longitudinal study. *Mental Retardation and Developmental Research*, 2, 54–63.
- Scarborough, H. S. (1990). Very early language deficits in dyslexic children. *Child Development*, 61, 1728–1743.
- Scarborough, H. S. (1998). Early identification of children at risk for reading difficulties: Phonological awareness and some other promising predictors. In B. K. Shapiro, P. J. Accardo, & A. J. Capute (Eds.), *Specific reading disability: A view of the spectrum* (pp. 75–199). Timonium, MD: York Press.
- Scarborough, H., & Dobrich, W. (1994). On the efficacy of reading to preschoolers. *Developmental Review*, 14, 245–302.
- Senechal, M. (1997). The differential effect of storybook reading on preschoolers' acquisition of expressive and receptive vocabulary. *Journal of Child Language*, 24, 123–138.
- Senechal, M., & Cornell, E. H. (1993). Vocabulary acquisition through shared reading experiences. *Reading Research Quarterly*, 28, 360–374.
- Senechal, M., LeFevre, J., Thomas, E., & Daley, K. (1998). Differential effects of home literacy experiences on the development of oral and written language. *Reading Research Quarterly*, 32, 96–116.
- Senechal, M., Thomas, E., & Monker, J. (1995). Individual differences in 4-year-old children's acquisition of vocabulary during storybook reading. *Journal of Educational Psychology*, 87, 218–229.
- Sindelar, P. T., Lane, H. B., Pullen, P. C., & Hudson, R. F. (2002). Remedial interventions for students with reading decoding problems. In M. R. Shinn, H. M. Walker, & G. Stoner (Eds.), *Intervention for academic and behavior problems II: Preventive and remedial approaches* (pp. 703–729). Bethesda, MD: National Association of School Psychologists.
- Snow, C. E., Burns, M. S., & Griffin, P. (Eds.). (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academy Press.
- Stanovich, K. E. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. *Reading Research Quarterly*, 21, 360–406.
- Stanovich, K. E. (1992). Speculations on the causes and consequences of individual differences in early reading acquisition. In P. B. Gough, L. C. Ehri, & R. Treiman (Eds.), *Reading acquisition* (pp. 307–342). Hillsdale, NJ: Erlbaum.
- Stuart, M. (1995). Prediction and qualitative assessment of five- and six-year old children's reading: A longitudinal study. *British Journal of Educational Psychology*, 65, 287–296.
- Tamis-LeMonda, C. S., Bornstein, M., & Baumwell, L. (2001). Maternal responsiveness and children's achievement of language milestones. *Child Development*, 72, 748–767.
- Teale, W. H. (1986). Home background and young children's literacy development. In W. H. Teale & E. Sulzby (Eds.), *Emergent literacy: Writing and reading*. Norwood, NJ: Ablex.
- Torgesen, J. K., & Burgess, S. R. (1998). Consistency of reading-related phonological processes throughout early childhood: Evidence from longitudinal-correlational and instructional studies. In J. Metsala & L. Ehri (Eds.), *Word recognition in beginning reading*. Hillsdale, NJ: Erlbaum.
- Torgesen, J. K., Morgan, S. T., & Davis, C. (1992). Effects of two types of phonological awareness training on word learning in kindergarten children. *Journal of Educational Psychology*, 84, 364–370.
- Torgesen, J. K., & Wagner, R. K. (1998). Alternative diagnostic approaches for specific developmental reading disabilities. *Learning Disabilities Research and Practice*, 13, 220–232.
- Torgesen, J. K., Wagner, R. K., & Rashotte, C. (1997). Approaches to the prevention and remediation of phonologically based reading disabilities. In B. Blachman (Ed.), *Foundations of reading acquisition and dyslexia* (pp. 287–304). Mahwah, NJ: Erlbaum.
- Tunmer, W. E., Herriman, M. L., & Nesdale, A. R. (1988). Phonemic segmentation skill and beginning reading. *Journal of Educational Psychology*, 77, 417–427.
- Uhry, J. K., & Shepherd, M. J. (1997). Teaching phonological recoding to young children with phonological processing deficits: The effect on sight-vocabulary acquisition. *Learning Disability Quarterly*, 20, 104–125.
- Wasik, B. A., & Bond, M. A. (2001). Beyond the pages of a book: Interactive book reading and language development in preschool classrooms. *Journal of Educational Psychology*, 93, 243–250.
- Weiss, J. J., & Hagan, R. (1988). A key to literacy: Kindergarteners' awareness of the functions of print. *The Reading Teacher*, 41, 574–579.
- Whitehurst, G., Arnold, D., Epstein, J., Angell, A., Smith, M., & Fischel, J. (1994). A picture-book reading intervention in day care and home for children from low-income families. *Developmental Psychology*, 30, 679–689.
- Whitehurst, G. J., Falco, F. L., Lonigan, C. J., Fischel, J. E., DeBaryshe, B. D., Valdez-Menchaca, M. C., et al. (1988). Accelerating language development through picture book reading. *Developmental Psychology*, 24, 552–559.
- Whitehurst, G. J., & Lonigan, C. J. (1998). Child development and emergent literacy. *Child Development*, 69, 848–872.

Appendix A: Children's Literature with Multiple Rhyme Patterns

- Brown, M. W. (1989). *Goodnight moon*. New York: Scholastic.
- Brown, M. W. (1999). *Another important book*. New York: HarperCollins.
- Charlip, R. (1999). *Sleepytime rhyme*. New York: Greenwillow.
- Degen, B. (1983). *Jamberry*. New York: Harper & Row.
- Dodd, L. (1999). *Hairy Maclary and Zachary Quack*. Wellington, New Zealand: Mallinson Rendel.
- Duquette, K. (1999). *The house book*. New York: Putnam.
- Ehlert, L. (2000). *Market day*. San Diego: Harcourt.
- Fleming, D. (1991). *In the small, small pond*. New York: Holt, Rinehart & Winston.
- Fleming, D. (1991). *In the tall, tall grass*. New York: Holt, Rinehart & Winston.
- Fleming, D. (1994). *Barnyard banter*. New York: Holt, Rinehart & Winston.
- Gleman, R. G. (1979). *Hello, cat, you need a hat*. New York: Scholastic.
- Hoberman, M. A. (1996). *One of each*. Boston: Little, Brown.
- Katz, M. J. (1990). *Ten potatoes in a pot*. New York: Harper & Row.
- Langstaff, J. (1974). *Oh, a-hunting we will go*. New York: Atheneum.
- Lowery, L. (1995). *Twist with a burger, jitter with a bug*. Boston: Houghton Mifflin.
- Maccarone, G. (1992). *Itchy, itchy chicken pox*. New York: Scholastic.
- McPhail, D. (1993). *Pigs aplenty, pigs galore!* New York: Dutton.
- Reid, B. (1999). *The party*. New York: Scholastic.
- Shaw, N. (1991). *Sheep in a shop*. Boston: Houghton Mifflin.
- Shaw, N. (1992). *Sheep out to eat*. Boston: Houghton Mifflin.
- Suen, A. (1998). *Window music*. New York: Viking.
- Winthrop, E. (2001). *Dumpy La Rue*. New York: Holt, Rinehart & Winston.

