Collaborative Efforts to Promote Emergent Literacy and Efficient Word Recognition Skills

Froma P. Roth, PhD; Gary A. Troia, PhD

In this article, 3 models of collaboration between speech-language pathologists and classroom teachers are discussed to promote emergent literacy and accurate and fluent word recognition. These models are demonstration lessons, team teaching, and consultation. A number of instructional principles are presented for emergent literacy and decoding within the context of collaborative work designed to help a preschool child with oral language difficulties and a second grader with word reading problems. Instructional principles cover the areas of vocabulary, phonological awareness, and narrative discourse in the emergent literacy period, and sounding out, reading by analogy, structural analysis, and routines to build fluency during the period of formal reading instruction. Keywords: collaboration, emergent literacy, reading disability, reading instruction, word recognition

INTRODUCING SARAH AND EMERGENT LITERACY LEARNING NEEDS

SARAH was a 4½-year-old child from a low socioeconomic status (SES) family who attended a Head Start program. The preschool curriculum contained specific child-centered learning objectives that were designed to promote expressive communication, phonological awareness, print awareness, and alphabetic knowledge. Classroom activities encouraged vocabulary development; understanding the basic structure of narratives, rhyming, blending, and segmenting syllables and sounds; appreciation of the conventions of print (e.g., directionality), letter naming, writing individual letters; and writing stories using "invented spelling."

Sarah had not been formally identified with a language or learning disability, but the Head Start teacher was concerned about Sarah’s progress for a number of reasons. First, she had difficulty learning and retaining new vocabulary. For example, Sarah did not remember word meanings contained in storybooks, even after repeated readings of the same book during story time across several days. Second, she could recall the events of a simple story, but not in a sequential order. Third, she did not demonstrate the ability to detect rhyme or alliteration (e.g., bat-bat-cat; big, brown, bear). Fourth, her letter-name knowledge was rudimentary; Sarah struggled with identifying even the earliest acquired letter names such as “b” and “m.” Moreover, she did not seem to understand the concept that printed letters and words carry meaning. Lastly, when “writing” her name, Sarah scribbled in wavy lines across the page. The teacher also noted that Sarah exhibited some minor articulation errors.

This article describes three models of collaboration—demonstration lessons, team
Table 1. Emergent reading and writing skills

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<th>Age</th>
<th>Behavior</th>
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<tr>
<td>3–4 years</td>
<td>Recognizes familiar print such as restaurant logos (Burger King), names on cereal boxes (Cheerios), street signs (Stop; One Way); may identify them (e.g., “That says Coke!”). Pretends to read books by holding book, turning the pages, and saying some words. Experiments with scribbling letters, numbers, or letter-like forms (e.g., wavy lines, squiggles). Prints some large capital letters. Knows the difference between drawing and writing. Copies/imitates simple lines or shapes (e.g., circle, cross). Recognizes and may say words that rhyme (e.g., dad–bad) and words that begin with the same sound (e.g., little lions laugh). Enjoys being read to and participating in the book reading by filling in familiar parts (e.g., “I do not like green eggs and ham.”).</td>
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<tr>
<td>4 years</td>
<td>Says rhyming words (e.g., boat–coat—Hey that matches!) and knowingly strings words that begin with the same sound (e.g., diddy douggy dandy). Understands that adult is reading the words in a book rather than just describing the pictures. Recognizes word boundaries by pointing to spaces between words. Pretends to read a storybook usually by having it memorized.</td>
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<tr>
<td>5 years</td>
<td>Demonstrates understanding that words can be divided into smaller parts by tapping, clapping, or counting out the number of syllables. Names letters in the alphabet and numbers 1–10. May know that letters have sounds and which sound each letter makes. Identifies the first sound in a spoken word (e.g., “ball begins with the ‘b’ sound”). Begins to point to letters on a page. May read some familiar words. Understands that writing has a purpose. Writes one letter/word to stand for a whole word/sentence. Prints own name, some letters of the alphabet, and numbers. Writes strings of letters in no particular order (e.g., BZXsQE). May use 1–3 letters to spell words (e.g., P = Pet; TA = Train).</td>
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teaching, and consultation. They are offered as developmentally appropriate, evidence-based practice models for promoting partnerships for literacy. First, their use is illustrated within a program designed to further Sarah’s mastery of key emergent literacy skills (Table 1). Then, their application is illustrated with a program to address word recognition and reading fluency deficits for a second-grade student we call David.

Collaboration is critical to promoting better communication among professionals, each of whom possesses specialized knowledge and skills related to language and literacy. For example, speech-language pathologists (SLPs) have a deep understanding of the linguistic underpinnings of literacy in both typically developing children and children with learning problems. Classroom teachers and special educators, on the other hand, have expertise in varied strategies, materials, and standards for teaching literacy. In our experience, teachers and SLPs often do not have an appreciation for each others knowledge and skills. Literacy partnerships offer an opportunity for these professionals to (a) engage in focused and frequent exchanges about effective language and literacy instruction; (b) share their expertise; (c) alter their traditional roles and responsibilities to
encompass direct and indirect methods of service delivery; and (d) leverage their combined knowledge and skills for implementing strong oral and written language practices and improving literacy outcomes for diverse students.

Collaboration is highly valued by teachers and SLPs, and although research findings suggest that it is an instructional approach of choice, collaboration often does not occur because it requires a substantial degree of coordination and planning as well as comprehensive training in interdisciplinary models of service delivery (Beck & Dennis, 1997). One means of making collaboration more manageable for partners is to share a common knowledge base. Thus, this article provides an overview that is critical to emergent and early literacy learning. Another means of making collaboration more manageable is to select individual students jointly and strategically for whom the potential benefits of co-treatment are most evident. Such a common knowledge base, coupled with a focus on the literacy needs of one child or a select few children, can help professionals establish a protocol for teaching collaboratively, assimilate each other's expertise, and, combined with student success, motivate and expand further collaborative efforts. In this article, we provide information about emergent and early literacy learning and give specific examples of implementing the three models of collaborative practice (demonstration lessons, team teaching, and consultation) within a child-focused interdisciplinary framework where there are mutual benefits for all stakeholders.

EMERGENT LITERACY

Emergent literacy is a developmental stage that provides excellent opportunities for meaningful and fruitful collaboration between teachers and SLPs. It is during this period that several converging areas of knowledge and skills interact with contributing factors (e.g., SES, family history of learning problems, linguistic/cultural background, home literacy environment) to set the stage for the acquisition of literacy (Lonigan, Burgess, & Anthony, 2000). Most children bring this knowledge and associated skills to school, but some children do not (e.g., Whitehurst & Lonigan, 2001). Like Sarah, they may not have been identified with a disability, but do show difficulties that serve as warning signs for teachers and SLPs.

The emergent literacy stage also illustrates the paradigm shift in service delivery that has been fueled by numerous factors, such as personnel supply and demand ratios; changing demographics of the public school population; and, notably, recognition of the critical developmental relationship between oral and written language. Children with delayed language development in the preschool years show a significantly higher incidence of later reading and writing problems than those children without preschool language problems (Bishop & Adams, 1990; Bishop & Edmondson, 1987; Catts & Kamhi, 1999; Gallagher, Frith, & Snowling, 2000; Hatcher & Hulme, 1999; Stothard, Snowling, Bishop, Chipchase, & Kaplan, 1998). Therefore, children who enter school with weaker verbal abilities are much more likely to experience literacy learning difficulties than their typically developing peers (Catts, Fey, & Tomblin, 1997; Scarborough, 2001; Scarborough & Dobrich, 1990).

Based on Sarah's profile, the classroom teacher and the SLP partnered to develop and implement an effective plan for her and one that would be beneficial for furthering the emergent literacy skills of her classmates. After reviewing the child-centered learning objectives of the Head Start program, they selected three aspects of oral language for initial focus: vocabulary, narrative discourse, and phonological awareness.

Vocabulary

A child's vocabulary knowledge has immediate and long-term effects on the development of both oral and written language, and thus is an important foundation for literacy learning and later achievement
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(National Reading Panel, 2000). The influence of vocabulary knowledge on reading acquisition is most well documented, both for the ability to read individual words (decoding) and for the ability to understand what is read (reading comprehension). For example, Scarborough (1998) showed that receptive and expressive vocabulary size at 3 years of age was predictive of subsequent decoding ability at the end of second grade. Vocabulary knowledge at 3 years of age also predicts overall reading and spelling achievement in kindergarten through third grade (Walker, Greenwood, Hart, & Carta, 1994). Furthermore, vocabulary knowledge has been linked to children’s phonological sensitivity (McGregor, 2004). Finally, based on a thorough examination of research literature, the National Reading Panel (2000) concluded that oral vocabulary is essential for word- and text-level reading development.

From about 18 months of age, typically developing children learn approximately 8 to 9 new words per day (Baumann & Kameenui, 1991; Beck & McKeown, 1996; Carey & Bartlett, 1978). By the time they enter school, children have developed a lexicon of thousands of words. These words are learned incidentally, through natural, daily interactions and conversations in their environment. The rapid pace and ease with which young children acquire vocabulary has been referred to as a process of fast mapping, in which the child’s brain is a “vocabulary sponge” that “soaks up” new words each day (Miller & Gildea, 1987; Nelson, 1998). Young children with language delays or those at-risk for early literacy problems have difficulty learning new words and retaining the meanings of newly learned words, thus exhibiting vocabulary deficits early on. In addition to arising early, vocabulary deficits widen over time (Stanovich, 1986). Children with vocabulary deficits frequently have difficulty learning to read and therefore miss important opportunities to learn new vocabulary from written texts. This is particularly critical because once basic reading skills are acquired (at about third grade), most new words are learned as children engage in the act of reading itself (Nagy, Anderson, & Herman, 1987).

Phonological awareness

Phonological awareness is an aspect of met phonological knowledge (explicit awareness of the sound structure of language) that is a known predictor of early reading proficiency and later reading development (e.g., Torgesen, Wagner, & Rashotte, 1994). As children manipulate the sound properties of language, they acquire the building blocks necessary for learning to read and write. Significant growth in phonological sensitivity occurs during the preschool period. Rhyming and alliteration represent early indications that children are sensitive to the fact that speech is made up of separate sound-based units (e.g., Troia, Roth, & Graham, 1998). These are important precursors, for more explicit forms of phonological awareness, including sound blending and segmentation, (Table 2).

Research studies consistently show that children who perform well on phonological awareness tasks usually become successful readers; whereas those who perform poorly often struggle with reading and spelling, regardless of other factors such as intelligence or SES (Adams, 1990; Blachman, 1984, 1989; Lundberg, Olofsson, & Wall, 1980; Stanovich, 1986; Vellutino & Scanlon, 1987; Wagner & Torgesen, 1987). In fact, phonological awareness in kindergarten is the single best predictor of reading and spelling achievement at the end of first and second grades (Cooper, Roth, Speece, & Schatschneider, 2002; Mann, 1993; Perfetti, Beck, Bell, & Hughes, 1987; Roth, Speece, & Cooper, 2002; Stanovich, Cunningham, & Cramer, 1984; Torgesen et al., 1994; Wagner & Torgesen, 1987). It also is clear that many school-aged children with language and learning disabilities continue to struggle with met phonological tasks (Fox & Routh, 1980; Torgesen et al., 1994; Vellutino & Scanlon, 1987).

Narrative discourse

Narration is the discourse form of most instructional reading materials in the early
and mid-elementary grades. Its development begins during the preschool years as children show increasing knowledge of the internal structure of stories and develop a “sense of story” (Roth, 2000). Narration is considered a literate discourse form because it requires a more abstract grasp of language than ordinary conversational discourse. As such, narratives presumably function as an important transition between oral and literate language styles (Westby, 1991). The basis for this thinking is that oral narration and written text share many of the same properties. Unlike conversation, narratives are monologues rather than dialogues. Narratives and written text also share a concise and complex syntactic style, topics that are frequently unfamiliar or abstract, and rare and rich vocabulary. Furthermore, like written text, narratives are a decontextualized language form because they require distancing from immediate experiences—reflecting on past experiences or creating novel event sequences (Silliman, 1989; Snow, 1991).

From a developmental perspective (Table 3), children’s earliest stories are personal narratives or “scripts” that involve recounting familiar experiences, such as going to a birthday party or taking a trip to the zoo. By about 5 years of age, children acquire a basic story schema and can tell stories with a beginning, middle, and end, using a theme or plot that temporally ties events together. This knowledge gives rise to fictional narratives, and children begin to understand and produce novel stories. By the time children enter school, their stories often contain physical descriptions of the characters and have simple but well-developed plot structures with story events causally connected to one another and linked to a central theme (Applebee, 1978).

Presumably, children bring a basic knowledge of story structure to literacy learning tasks and apply this knowledge in their efforts to decipher, understand, and compose text. It has been repeatedly demonstrated that regardless of age or stage, children with language and learning disabilities have difficulty understanding stories, producing stories of their own, and retelling stories told or written by others (Newcomer & Barenbaum, 1991; Roth & Spekman, 1986; Roth, Spekman, & Fye, 1995; Vallecorsa & Garriss, 1990). Thus, narrative discourse is an emergent literacy skill that warrants early attention by both classroom teachers and SLPs, and is a developmental domain that lends itself well to collaborative efforts.

**MODELS OF EMERGENT LITERACY PARTNERSHIPS**

Armed with information about key factors in emergent literacy development, teachers and SLPs can use the information collaboratively to meet the needs of students like Sarah or of older children who may still be functioning at an emergent literacy level. In this section, we present three evidence-based
Table 3. Stages of story development

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<tr>
<th>Stage</th>
<th>Description</th>
<th>Example</th>
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<tbody>
<tr>
<td>Heap</td>
<td>Simple listing of ideas in no particular order</td>
<td>The cat is climbing on the tree. It’s raining and the children are there and the cats. The sky is all blue and the clouds. The end.</td>
</tr>
<tr>
<td>Description</td>
<td>Contains information about the personality and physical characteristics of the main character</td>
<td>Once there was a big black cat who lived in a house. He was mean and scary. He had giant black eyes and big claws and scratched people in the face. And he chased dogs. The end.</td>
</tr>
<tr>
<td>Action sequence.</td>
<td>Story events are connected through temporal relationships but not causally</td>
<td>Once there was a big black cat. Everyday, he came out and chased dogs. Then he played with his friends. Then he found some lunch. Then he purred and licked his fur. Then he went home and went to sleep. The end.</td>
</tr>
<tr>
<td>Primitive narrative.</td>
<td>Events are linked temporally and causally, but there is no goal-based action</td>
<td>Once there was a dog named Fella who lived by the train tracks. Fella was playing by the tracks, hopping over the rails, when along came a train, and whoosh, that was the end of Fella. The end.</td>
</tr>
<tr>
<td>True narrative.</td>
<td>Events are chained logically to one another and to a central character or theme</td>
<td>Once there was a big black cat who lived in the city. One day he decided he was very hungry and that he needed to get something for dinner. So he went into the alley and spotted a little bird, caught him, and had him for dinner.</td>
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models of collaboration—demonstration lessons, team teaching, and consultation—to demonstrate successful strategies for professional partnerships between SLPs and teachers.

Simply put, in the demonstration lesson model, one professional teaches a lesson or lessons to target specific learning objectives that benefit all students while the other professional observes. In the team teaching model, professionals combine their expertise and shared objectives to co-teach a lesson or series of lessons. In the consultation model, one professional indirectly facilitates the implementation of particular learning objectives by serving as a resource for other professionals and families who work directly with students. All three models emphasize the central role both teachers and SLPs may play in the education of young children. Rather than working toward common goals in isolation, educational professionals can coordinate their expertise more efficiently within any of these models to target mutually shared language-based learning objectives (Peña & Quinn, 2003; Silliman, Ford, Beasman, & Evans, 1999).

Demonstration lessons

Using this approach, the SLP and the teacher talked about the importance of narrative to emergent literacy development, along with vocabulary development. The SLP offered to model a classroom lesson that targeted the development of receptive and expressive vocabulary and knowledge of the story form. Dialogic reading was selected as the instructional approach because it was ideal for implementing this collaborative model in a natural classroom context. As an interactive method of storybook reading, dialogic reading incorporates children’s participation throughout the entire book reading activity and provides opportunities to embed

With the teacher's guidance, the SLP selected a book from the existing curriculum corresponding to a thematic unit and read the book with expression. Using this book, the SLP explicitly identified the main elements of a story, emphasizing the initiating event, the action sequence, and the resolution (Roth & Spekman, 1986). Another book was then selected with the same theme, and the dialogic reading technique of CROWD was implemented (Burns, Griffin, & Snow, 1999), in which the SLP posed five different kinds of instructional questions/prompts throughout the book reading. While reading the book, the clinician solicited information from the students and provided feedback about their responses to the questions posed in CROWD. In CROWD, each type of query serves a different function:

C = Completion questions focus on the linguistic structure.
R = Recall questions focus on story content.
O = Open-ended questions focus on increasing amount of talk about the book.
W = Wh-questions focus on teaching new vocabulary.
D = Distancing questions focus on linking book events with one child's own experiences.

The SLP began with wh- and open-ended questions, as these are easier for young children and tend to engage them more readily (Burns et al., 1999). After finishing the story, the children were prompted to recap the main events of the book and to identify the beginning (i.e., initiating event), middle (i.e., action sequence), and ending (i.e., resolution) parts of the story. The SLP deliberately selected Sarah to respond to some of the questions and to contribute to the story recap. The SLP then reread the book, as repeated readings have been shown to increase children's degree of participation, amount of verbal output, and linguistic sophistication of their contributions (e.g., Teale & Sulzby, 1987).

New vocabulary words were taught as they were encountered within the context of the storyline. The SLP identified the new words (e.g., "What is roaring?") and provided simple definitions for each word. Short descriptions and synonyms were presented to scaffold and strengthen vocabulary knowledge (e.g., "He built a cocoon—a warm comfy blanket"). The SLP focused on teaching both common words (e.g., roaring) and rare words (e.g., cocoon) because exposure to both kinds of words is associated with increased vocabulary size even in young children (Tabors, Beals, & Weizman, 2001). The class then engaged in constructing a semantic map for the target word lion, which involved three sequential activities: brainstorming a list of words from the story; categorizing the words into groups (i.e., actions, foods, colors, body parts) using pictures, and then drawing lines to connect each category with the center node (i.e., lion). Sarah and a more accomplished peer worked together to complete their own version of the semantic map, with feedback from the SLP and the teacher. This helped provide a visual representation of the thematic vocabulary and their relationships and highlighted the semantic categorical organization of these words. After the SLP had modeled the dialogic storybook reading technique, demonstrated how to make the process of new vocabulary learning more explicit, and encouraged Sarah to take turns in the group discussions, the teacher implemented the techniques on other days when the SLP was not scheduled in the classroom, first with the same book and then with new books. The partners touched base with each other regarding how Sarah and the other students were doing; all were learning to participate more fully in the shared book reading activities and beginning
to use some of the new vocabulary in dramatic play.

**Team teaching**

To address the element of phonological awareness, the SLP and the teacher decided to use the team teaching model to co-teach a lesson aimed at furthering the children's knowledge of rhyming. This was consistent with a survey conducted by the American Speech-Language-Hearing Association (ASHA, 2004), which showed that kindergarten teachers favored team teaching as a collaborative model of instruction in which SLPs co-taught lessons on a regular basis (e.g., once a week), aimed at fostering language-related literacy goals. Rhyming ability had been selected as an appropriate intervention target for Sarah on the basis of her profile; it also was viewed as a developmentally appropriate instructional goal for the whole class.

The SLP and the teacher selected a set of developmentally appropriate books that had a sense of cadence (e.g., *Mouse Mess*, Riley, 1997; *Each Peach Pear Plum*, Ahlberg, 1979; *Pass the Fritters*, *Critters*, Chapman, 1993) and favorite chants (*Teddy Bear, Teddy Bear, Two Little Feet*) that contained many rhyming words. For each book/chant, a three-part lesson was implemented:

1. **Explain/Model Task:** The SLP explained the concept of rhyming to the class, providing examples of word pairs that did and did not rhyme, and asked for volunteers to rhyme their names and names of fellow students. The teacher then read the story, using exaggerated articulation of rhyming words to highlight salient rhyme portions.

2. **Cloze Activity:** The teacher reread the book, this time asking the children, particularly Sarah, to provide the rhyming words at the ends of the sentences.

3. **Follow-up Activity:** In a follow-up activity, the SLP and the teacher each worked with smaller groups, assisting the students to construct a "rhyming tree," in which the rhyming words of the book constituted branches of the tree. Children took turns saying the rhyme pairs and attaching them to the tree in their smaller groups. This gave the SLP the opportunity to work directly with Sarah and provide slightly more individualized instruction and practice opportunities. Once completed, the SLP and the teacher led the class in playful rapid repetition of the rhyming words to reinforce the concept of rhyming and to refocus their attention to the sound properties of words.

This lesson capitalized on research showing that phonological awareness training is most beneficial for children with and without disabilities when instruction is explicit and systematic (e.g., Byrne & Fielding-Barnsley, 1995; Foorman, Francis, Novy, & Liberman, 1991; Torgesen & Davis, 1996).

**Consultation**

The ASHA (2004) survey on service delivery models showed that a 3:1 format is the preferred approach to service delivery among SLPs and teachers, in which SLPs provide direct service 3 weeks per month, and collaboration 1 week per month. The collaboration week provides dedicated time for partnership efforts, which can include co-constructing curriculum content and materials, lesson planning, and parent/professional meetings. All of these activities increase the continuity between curriculum content goals and speech-language goals. This model also capitalizes on the effective use of talent and resources to improve educationally relevant outcomes for all students (Nelson, 1994). It was used by Sarah’s teacher and the SLP to give them time to plan the activities that were described previously and to confer about the results so that modifications could be made in the activities over the following 3 weeks.

As a form of collaborative consultation, sharing knowledge and resources increases the probability of delivering earlier and more comprehensive services to all students, not just to those identified with early language and emergent literacy deficits. It also embraces the importance of preventive efforts.
and early identification of at-risk youngsters. In Sarah’s case, pooling their expertise enabled the teacher and the SLP to infuse the curriculum in areas known to be related to literacy and further language development. A main contribution of the SLP was the provision of information on typical development and developmental milestones that are key indicators of emergent literacy. This information can be used by all members of an educational team to establish a set of “red flags” for potential literacy learning difficulties. Tables 1 through 3 give examples of the kind of information the SLP shared with Sarah’s teacher during their collaborative consultation sessions. In those same meetings, the teacher helped the SLP learn about the literacy learning standards and benchmarks adopted by the state, and the scope and sequence of the preschool emergent literacy curriculum. Together they reviewed books and other materials that they could use to collaboratively target narrative, vocabulary, and phonological awareness skills.

INTRODUCING DAVID AND EARLY READING NEEDS

When David was 7 years old, he was in a second-grade classroom led by a teacher who strongly believed that exposure to quality literature and ample opportunities for reading and writing were the most important aspects of early reading instruction. Although David showed a love for books and enjoyed being read to, he was struggled with the process of learning to read, specifically decoding words. He recognized a fair number of short, high-frequency words (those that serve grammatical functions), but he had trouble reading longer content words. He identified the first sound or sounds in a word but did not “get” the rest of the word. When asked to “sound out” a word, David did not appear to recall all of the letter-sound associations. If a word had multiletter units, such as blends, digraphs, and diphthongs, or if it had more than one syllable, he was unable to identify some of the most basic orthographic (i.e., spelling) patterns. When reading text, David read at a halting pace because he struggled to recognize most words. When asked to summarize what he had read, David related tangential facts and events out of order.

EFFICIENT WORD RECOGNITION

There are two primary means for decoding words. A mature reader recognizes words, such as painfully, by “sight” when connections between the word’s orthographic structure (i.e., spelling) and phonological structure (i.e., pronunciation) are fully specified in long-term memory. These connections extend beyond a simple association between how the word looks in print and how it sounds when spoken. Specifically, multiple levels of information are stored (Ehri, 1998; Perfetti, 1992), including (a) grapheme–phoneme correspondences (p is associated with /p/); (b) graphological and phonological rhyme patterns (pain shares a spelling pattern with train, main, and rain and simultaneously rhymes with plane and vein); (c) syllable and morphological structure (painful-ly); (d) a whole-word representation; and (e) fully specified semantic knowledge about the meaning of the concept. In the early stages of learning to read, however, a child might attempt to “sound out” the unfamiliar word, painfully, using a phonological recoding strategy, converting the letters and letter strings into their corresponding sounds and then reassembling the sounds to pronounce the word (Torgesen et al., 2001; Torgesen, Wagner, & Rashotte, 1997). This kind of alphabetic reading is a slower, less efficient approach to word recognition. This approach often is taken by inexperienced readers who have yet to develop sufficient orthographic representations of words in memory and by struggling readers like David who have yet to develop a broader set of word recognition strategies (Liberman & Shankweiler, 1985; Rack, Snowling, & Olson, 1992; Stanovich, 1988; Vellutino & Scanlon, 1987). Alphabetic reading is sufficient for many regularly spelled words that are often present in books for young
readers, but is inadequate when applied to phonemically and orthographically "dense" words (e.g., painfully). By contrast, orthographic word identification exemplifies skilled reading in that words are recognized virtually instantaneously with little conscious effort.

High-quality word recognition instruction requires much more than teaching children like David how to "sound out" words. The evidence base (see Troia, 2004, for a review of the relevant literature) suggests that word recognition instruction should have four characteristics. First, instruction should be multifaceted to address both alphabetic and orthographic reading. Second, instruction should be explicit and intensive, as research suggests that these features are associated with better reading outcomes, especially for poor readers (e.g., Torgesen et al., 1997). Third, instruction should begin early in order to (a) prevent limited reading achievement among children who enter school without the benefits of substantive early literacy experiences; (b) ameliorate the reading problems of children whose disabilities have genetic or neurobiological origins; (c) avoid negative attitudes and avoidance of reading; and (d) lessen the likelihood that poor reading skills become intractable and unresponsive to intervention (Lyon & Moats, 1997). Fourth, instruction should be coordinated among all those who are concerned with reading and its associated skills, including classroom teachers and SLPs.

This last characteristic is particularly germane to the current topic of promoting literacy partnerships. By forming partnerships, classroom teachers and SLPs can bring unique perspectives, knowledge, and talents to bear when planning comprehensive and intensive instruction that supports children's early development of accurate and fluent word recognition. SLPs, in particular, are well suited for helping to create good reading programs because they possess critical expertise in speech and language development and disorders and the connections between oral and written language (ASHA, 2001). Many classroom teachers may benefit from additional knowledge and preparation in teaching children to read using evidence-based practices (McCutchen et al., 2002; Moats, 1994; Moats & Lyon, 1996).

Based on David's profile, his second-grade teacher and SLP partnered to develop and implement an effective plan for him and one that also aimed at furthering the reading accuracy and fluency of his classmates. Given the research evidence (see Troia, 2004, for review) and David's weaknesses with decoding "dense" words (e.g., words with multiletter codes for individual sounds, multisyllabic words, and words with multiple morphemes) accurately and quickly, they decided to teach several decoding strategies—sounding out, reading by analogy, and structural analysis. They also implemented some instructional routines (Readers' Theater, sustained silent reading, and progress monitoring) to foster greater fluency.

**Sounding out**

For children to take full advantage of the alphabetic principle, they need to apply it when trying to read unfamiliar words. In conventional phonics instruction, beginning readers are taught to convert graphemes (letters) to phonemes (speech sounds) and blend the resulting sequence of sounds as a means of "sounding out" unknown words. Then, they are given ample opportunities to practice this strategy in isolated words to facilitate the stabilization of graphophonic (i.e., letter-sound correspondence) knowledge. Instruction should not stop there, however. Traditional synthetic phonics instruction is only one approach to teaching decoding skills; others include analytic phonics (i.e., starting with sets of known words and deconstructing them to identify phonic rules and generalizations), spelling-based approaches, and analogy-based approaches (see Stahl, 2001, for review). Although at this point no single type of phonics instruction appears to be substantially more advantageous than another, explicit and systematic instruction involving word-level analysis and synthesis techniques has been shown to produce greater
effects on decoding performance (as measured by reading nonsense words) than those by less explicit forms of instruction, at least for beginning and struggling readers (Blachman, Tangel, Ball, Black, & McGraw, 1999; Foorman, Francis, Fletcher, Schatschneider, & Mehta, 1998; National Reading Panel, 2000; Stahl, Duffy-Hester, & Stahl, 1998; Torgesen et al., 1999).

This does not mean that decoding practice should occur solely within the context of skills-based instruction, however; graphophonemic conversion tactics also should be encouraged when children read whole texts. The type of text in which this practice occurs should be carefully considered. There is evidence that decodable texts, those that are linguistically valid and engaging but contain high-frequency examples of letter–sound associations being taught, are more beneficial for improving decoding skills than those provided by phonetically less transparent texts (Juel & Roper-Schneider, 1985). However, in order to help students develop a strong sense of narrative structure and comprehension of complex semantic and syntactic relations, it may be necessary to supplement these texts with authentic children’s literature.

Reading by analogy

Identifying unknown words by analogous comparison with known words is another useful decoding strategy (Goswami, 1986). It also is one that may need to be taught explicitly, particularly to students with special needs. When reading words by analogy, children draw comparisons between phonograms, which are also called orthographic rhyme patterns. So, a child who is familiar with the phonogram eat (an orthographic rhyme pattern and, in this case, also a whole word) can, by analogy, read the words seat, cheat, beat, and meat. The phonogram provides a consistent mapping between orthography and phonology, especially with respect to vowel pronunciation, which is notoriously unpredictable (Treiman & Zukowski, 1996). Because the mapping is beyond the level of simple letter–sound association (i.e., two graphemes, ea, are produced as the single phoneme /i/), it enables children to decode words more efficiently and to develop orthographic word recognition. Three instructional techniques have been suggested to help children learn to read by analogy: explicit teaching of anchor words for common phonograms (see Gaskins et al., 1988), self-directed word sorts to facilitate discovery of spelling patterns (Bear, Invernizzi, Templeton, & Johnston, 2003), and guided spelling with pre-determined sets of letters that are part of pattern words (Cunningham & Cunningham, 1992). Phonogram instruction may be combined with instruction in graphophonemic conversion for the best results (Lovett et al., 2000).

Structural analysis

Children also need to know how to decode polysyllabic words through graphomorphemic, or structural, analysis. The words transport, portable, report, and export all contain the same root, port, which means to carry or take, plus a derivational affix that modifies the meaning of the root. Similarly, the words plays, played, and playing all contain the same base word, play, plus inflectional affixes marking verb tense. Children can use this information to recognize words more efficiently. Morphemic roots, base words, and affixes all contribute to regularity of spelling and are often, but not always, stable with respect to pronunciation. Simultaneously, children can learn to use morphemic analysis to determine the meanings of words and their functions in sentence contexts. In fact, Nagy and Anderson (1984) estimated that about 70% of English words have meanings that can be predicted, to some degree, from the meanings of their parts. This is an aspect of decoding instruction in which collaboration between SLPs and teachers may be especially beneficial, because clinicians possess expertise in morphology, whereas teachers may not (Moats, 1994, 2000).

Instructional routines to foster greater fluency

To achieve the ultimate goal of fluent reading with comprehension, children need to be
able to recognize words not only accurately but also quickly. Slow word identification hinders comprehension because the reader must devote finite cognitive resources to decoding, leaving few resources available for comprehension monitoring and repair (e.g., Tyler & Chard, 2000). This was the case with David, whose oral reading was slow, halting, and replete with miscues. Fortunately, there are a number of effective ways to increase the reading fluency of children with and without reading problems.

One long-standing, empirically validated approach for increasing fluency involves repeated reading. It has been shown to improve overall reading performance both for passages that are practiced and for novel ones (Rasinski, 1990; Vaughn et al., 2000). Repeated reading can take many forms. For example, in paired reading (Topping, 1989), a fluent reader first reads a passage at a moderate pace while a less fluent reader “shadows” by trying to read at the same or a trailing pace. Then the weaker reader reads the same passage alone. In shared reading, a more fluent child or adult reads a passage to the student, modeling good fluency; then the student reads the text along with the partner (as in paired reading); and finally the student reads the text to the partner. In paired repeated reading (Koskinen & Blum, 1986), the less fluent reader reads a passage several times while receiving feedback and assistance from a more competent peer or adult, and then the roles are reversed. Students also can be partnered with younger children. In this case, the struggling reader selects a relatively easy text that is more appropriate in content for the younger child (which provides an authentic reason for reading simpler texts), practices the text, and then reads it to the younger child. Paired reading also can be accomplished using audiotape recordings of passages, which has the added benefit of permitting fluency practice in or out of school.

Readers’ Theater is another means of improving children’s reading rate and prosody (Martinez, Roser, & Strecker, 1999; Tyler & Chard, 2000), which also serves as an authentic reason for reading a text multiple times. Children can select poems, famous speeches, lyrics, or other such materials to practice for presentation to the class, or, more typically, can rewrite a favorite story as a play to rehearse and present. Readers’ Theater offers an opportunity for SLPs and teachers to work together because oral language skills (e.g., narration, grammar, pragmatics) and reading skills can be nurtured simultaneously.

Children should be shown how to monitor and record their reading fluency progress, which may serve as an additional incentive for students to improve their performance compared with their own baseline data. After counting the number of words in a passage, they can time each other when doing partner reading (or time themselves after tape recording an oral reading sample) and record either the amount of time it took to read the selection or the number of words read per unit of time (e.g., 1 min) on a personal graph. Then, with the teacher’s guidance, each child can establish a reading rate goal to work toward, perhaps using the grade-level norms provided by Rasinski and Padak (2001), or simply seeking to better their own performance.

Finally, children need to read large amounts of text to encounter words frequently enough to build word-specific orthographic representations. To encourage wide reading, materials should be selected that match students’ interests and that are at an independent reading level. Providing books on tape or compact disc alongside print versions gives children a model for fluent reading and enables them to tackle more challenging texts. Closed captioning combined with lowered volume can motivate students to read quickly to follow their favorite television programs. Reading fluency can be improved through prudent practice with words printed on flash cards (Tan & Nicholson, 1997).

MODELS OF FORMAL READING INSTRUCTION PARTNERSHIPS

The three types of collaboration models described earlier for guiding work on emergent
literacy for Sarah also are applicable for collaborative efforts during beginning and transitional reading instruction for students like David. Application of the demonstration lessons, team teaching, and consultation models with David and his classmates emphasizes the central role played by both his teacher and the SLP in the development of a strong, multifaceted reading program. As for Sarah, by using these three models, the teacher and the SLP were able to coordinate their expertise to target mutually shared language-based learning objectives more efficiently for David.

Demonstration lessons

The SLP and the special educator collaborated to improve the discourse (e.g., narration, grammar, pragmatics) and reading skills of all the students in David’s class using Readers' Theater. The students were free to select poems, speeches, lyrics, or other similar materials to practice for presentation to the class, or to rewrite a favorite story as a play to rehearse and present. The teacher and the clinician first met to discuss how the instructional procedures would help improve reading accuracy and fluency and the latter offered to teach demonstration lessons. They discussed how lyrics and poems use vocabulary and grammar in unique ways, contrasted these with students’ typical ways of speaking, and discussed ways to portray the concepts to the students.

To begin the demonstration lesson, the SLP showed the students how to monitor and record their reading fluency progress by counting the number of words in a passage, timing themselves (using a tape recorder) or a partner, and graphing the amount of time it took to read the selection or the number of words read per unit of time. With the clinician’s guidance, David and the other students established a personalized reading rate goal. Using the paired reading technique, students read aloud to their partners. This provided the SLP opportunities to demonstrate how to maintain eye contact with the audience, to use adequate vocal intensity and inflection, and to show enthusiasm and confidence with facial expression. First the SLP demonstrated the negative version of these traits (to the students’ delight), and then led the class in a discussion of what would be a better way, followed by demonstrating the desired traits.

The SLP and the teacher provided books on tape and CD alongside print versions and they identified the approximate reading levels of all trade books used by the teacher employing a color code so the students knew which books were “just right” for them. In this way, David could select reading material in which he could find success at reading fluently. They also worked together to identify a common core vocabulary for language intervention and reading remediation (a number of these words were found on published reading vocabulary lists). They printed the words on flash cards so students could practice reading, spelling, defining, and using them in spoken utterances.

Team teaching

The teacher and the SLP collaboratively developed and taught weekly word study units in which they introduced common phonograms (-eat, -op, -ight) and provided examples of compound words, base words with inflected endings or derivational affixes, and root words with derivational affixes. Words used for instructional purposes often were selected from the students’ reading materials. At the beginning of the week, words containing a new orthographic pattern were added to a class word wall. For example, one week the phonogram -ight was introduced. An anchor word for this pattern, light, was selected and printed on the word wall. Children generated other words, including sights, frightening, and mightily, containing this pattern that also were added to the word wall under the anchor word. The teacher ensured these words were placed near another pattern on the wall that shared the same underlying phonological structure (in this case -ite,
as in *write* and *spiteful*) and pointed out this alternative pattern to the students. David and his peers then searched their texts for other examples of the new pattern and related patterns and recorded them on personal copies of the word wall.

On other days, students performed word pattern sorts with the assistance of the SLP. For example, one week children learned about the root word *sign*. To perform a word sort, each child was given a set of index cards and asked to (a) sort the cards into as many different words as possible; (b) record all of the possible words on a separate sheet; (c) determine if each pattern was an acceptable English word; and (d) if a word is acceptable, write the word in a sentence to demonstrate understanding of its meaning. For this particular root word, children were given cards on which were printed the root *sign* and affixes *de-*,-*re-*,-*as-*,-*s-*,-*ed-*,-*ing-*,-*er-*,-*ate-*,-*al-*,-*ment-*,-*ify,* and -*ation*. Using these, the children created words like *design*, *assignment*, and *signal*. David’s attempts were closely monitored and he was given feedback about the words he generated. David and the other students discovered how various affixes could be combined with the root to form different words, how affixes influenced meaning, and how pronunciation changed while spelling of the root remained the same.

Students also participated in a guided spelling activity using letter tiles. They combined the tiles to spell many of the words containing the target root, base word, or phonogram they had been studying. The teacher then conducted a mini-lesson focusing on the meaning and spelling of a few affixes with which students were working (e.g., *de-*,-*ing,* -*ment*).

**Consultation**

In planning all of these activities, the SLP worked with the teacher to make script adaptations, such as marking long versus short vowels and using colored or differently sized letters to indicate silent letters, to support the decoding efforts of struggling students, such as David. After reviewing the reading curriculum together, the SLP also provided the teacher with lists of texts that would support their collaborative word recognition instruction (e.g., predictable books, decodable books, high interest–low vocabulary leveled books) and authentic reading materials that tapped David’s particular interests. The clinician’s guidance in selecting materials and adapting those materials helped the teacher accommodate the diverse groups of students in her class more effectively and saved valuable planning and instructional time. The SLP benefited from consulting with the teacher because David’s language and literacy needs were being successfully addressed directly and explicitly, but without the need to pull David out of class for therapy.

**CONCLUSION**

Mitigating emergent and early literacy problems is a shared goal of SLPs and teachers. Professionals in each discipline bring unique knowledge and resources to this goal, which, when teamed, provide integrated educational programming to maximize the learning potential of youngsters. Despite time constraints and resource issues, collaborative service delivery models hold many advantages for professionals in early childhood education settings. Interdisciplinary partnerships for young children align with national priorities for prevention and early identification of literacy deficits. Estimates of increasing numbers of at-risk children along with associated workload ramifications provide additional impetus for pursuing collaborative partnerships. To achieve this, preservice and in-service education must incorporate training in integrated service delivery models. This article offers three variations of collaborative service delivery models and information that SLPs and teachers should consider when seeking to develop partnerships for literacy at these emergent and early stages.
REFERENCES


