Using Scaffolding to Teach Phonemic Awareness in Preschool and Kindergarten

Lea M. McGee, Teresa A. Ukrainetz

A considerable body of research indicates that early literacy instruction, including phonemic awareness instruction among other components such as reading aloud literature and encouraging children's writing, can make reading accessible at an earlier age to more children (Ehri et al., 2001; Snow, Burns, & Griffin, 1998). With quality instruction, research has shown that children can enter kindergarten being able to categorize (segment or isolate) first sounds in words (e.g., Byrne & Fielding-Barnsley, 1991) and segment words into phonemes (Hesketh, 2007; Yeh, 2003). Nonetheless, preschool teachers we have worked with in Early Reading First grants expressed to us that they found teaching phonemic awareness challenging. To help our teachers become more effective, we turned to suggestions provided in published phonemic awareness curricula (e.g., Adams, Foorman, Lundberg, & Beeler, 1998; Blachman, Ball, Black, & Tangel, 2000). Although these curricula provided engaging phonemic awareness activities, we found, as did Santi, Menchetti, and Edwards (2004) in their review of eight published curricula, that curricula did not provide teachers with techniques for providing feedback to children when they failed to perform a task. In this article we describe a successful method of scaffolding phonemic awareness instruction that we have used in preschool and kindergarten.

Mrs. Pollard Struggles to Teach Phonemic Awareness

Following is an excerpt from a typical phonemic awareness lesson taught by a preschool teacher before we began our Early Reading First project. We observed similar patterns of teaching in some kindergarten classrooms as we worked with these teachers in helping preschool children make successful transitions to kindergarten. Names of children and teachers are pseudonyms.

Mrs. Pollard:	What's this picture? [showing a picture of a tub]
	[no response]
	It's a tub. You take a bath in a tub. Everyone say *tub*.
Children:	Tub
Mrs. Pollard:	What's the first sound in *tub*? Jermeshia?
Jermeshia:	[looks at teacher]
Mrs. Pollard:	Listen, *t̲ub*. [emphasis on the first sound, /t/] What's the first sound you hear in *tub*?
Jermeshia:	[no response]
Mrs. Pollard:	Cedrian. What's the first sound in *t̲ub*?
Cedrian:	/t/
Mrs. Pollard:	Good. What's this? [showing a picture of toes] Destiny?
Destiny:	Toes
Mrs. Pollard:	Good. *T̲oes*. What's the first sound in *t̲oes*?
Destiny:	[very quietly] Toes
Mrs. Pollard:	That's the word. What's the first sound in *toes*? *T̲oes*? It starts like *t̲ub*.
Destiny:	[silence, looks down]
Mrs. Pollard:	/t/ is the first sound.

There are many reasons why teachers found teaching children such as Jermeshia and Destiny challenging. The children's silence and downward glances may signal that sociocultural dynamics are in play, or that children do not understand the language

used in instruction ("first sound") or are unfamiliar with words used in the task (recognizing the picture as a *bathtub* rather than a *tub*). Children might not understand what is being required of them (we rarely saw teachers model the task). Overall, we observed that teachers typically did not provide sufficient support during lessons to help children learn; thus, we turned to the literature on scaffolding.

Scaffolding

Scaffolding is the intentional, strategic support that teachers provide that allows children to complete a task they could not accomplish independently (Vygotsky, 1978; Wood, Bruner, & Ross, 1976). To scaffold appropriately, teachers determine what kind and how much help or information is needed for each child to respond correctly to the task and to internalize skills needed for independent performance later (Ukrainetz, 2006). For example, the question, "What is the first sound in the word *toes*?" provides no guidance or helpful information for children to use in responding. In contrast, scaffolds are comments or instructions in which teachers provide more guidance for answering the question correctly. We developed three levels of scaffolding, each level providing more specific help in accomplishing the task of isolating a beginning phoneme. The following transcript from the same preschool classroom later in the year shows how the teacher began the lesson with a demonstration of the task. The transcript shows examples of her comments that provide scaffolding.

Mrs. Pollard: We're going to be listening for first sounds today. Let's practice with our names. My name is Pollard. /p/p/ Pollard. The first sound in Pollard is /p/. What is the first sound in Pollard?

Children: *P*

Mrs. Pollard: That's the letter. What's the first sound in /p/p/Pollard [points to lips and repeats /p/ sound with emphasis], Quintavious?

Quintavious: /p/

Mrs. Pollard: Yes. /p/ is the first sound in *Pollard*. Let's try Kashawn. What's the first sound in Kashawn? [slightly stresses /k/ sound] Jalani?

Jalani: /k/

Mrs. Pollard: Yes. /k/ is the first sound in *Kashawn*. What's the first sound in *Kevin*? Ashleigh. Watch my lips /k/k/k/Kevin. /k/. Say /k/.

Ashleigh: /k/

Mrs. Pollard: Yes, /k/ is the first sound in Kevin.

As shown in this transcript, all the children were able to isolate the first sounds in names *with differing levels of scaffolding*. Some children, like Jalani, needed only a small amount of information provided by slightly emphasizing the phoneme within the word. Other children, like Quintavious, needed more information such as when Mrs. Pollard repeated the beginning phoneme within the word while she pointed to her mouth. Still other children, like Ashleigh, needed intense support: The teacher repeated the phoneme, reminded the child to look at her lips, demonstrated saying the phoneme in isolation, and elicited the phoneme from the child.

Three Levels of Scaffolding

We have found that most children need intense scaffolding when teachers first introduce the concept of isolating first sounds in words or when they teach phonemes children find harder to learn, such as /g/ (Treiman & Kessler, 2003). For *intense scaffolding,* teachers isolate and emphasize the beginning phoneme in isolation and say the word with the phoneme exaggerated (being sure not to distort the sound). Teachers remind children to watch their mouths as they say the sound. They model the correct response and then have the child repeat the phoneme: "The first sound in Kashawn is /k/. Now you say /k/."

Teacher: What is the first sound in *goat*, Tamora? /g/g/g/goat. /g/. Watch my lips—/g/. Now you say /g/.

Tamora: /g/g/g/

When less support is needed, teachers use *moderate scaffolding*. They isolate and emphasize the first sound by bouncing or elongating the sound in isolation (without distorting the sound) and within the word. Teachers may also point to and tell children to watch their mouth; however, they do not provide the correct response as is done in intense scaffolding. Teachers may use all or only some of these prompts in moderate scaffolding as Mrs. Pollard did when she

asked, "What is the first sound in /p/p/Pollard?" and pointed to her lips as she repeated the /p/ sound.

In *minimum scaffolding*, teachers merely stress the first sound while saying a word: "What is the first sound in <u>K</u>ashawn?" Here, the children must use the minimum information provided by the slight emphasis on the phoneme within the word context. When children are successful at isolating the first phoneme with only this tiny bit of support, teachers ask children to accomplish the task without scaffolding: "What is the first sound in *cat*?" saying the word without emphasizing the beginning sound. Table 1 provides a summary of these levels of scaffolding.

In the preceding examples, teachers differentiated instruction by altering the level of support offered to individual children. Over the course of a lesson and in subsequent lessons, as a particular child begins to succeed with one level of scaffolding, teachers reduce the amount of support they provide from intense to moderate to minimal scaffolding until each child can perform isolating tasks without scaffolding. After learning how to isolate a beginning sound, children are ready to learn more complex levels of phonemic awareness. Many children in our project learned to isolate first sounds in preschool, and in the districts in which we were working all kindergarten children were expected to acquire this concept. Kindergarten children were also expected to be able to segment the ending phoneme from words and to segment all the phonemes in single-syllable words.

Scaffolding Higher-Level Phonemic Awareness

To help children learn to segment words into phonemes in kindergarten, we used scaffolding during a game of "fishing for phonemes." In the following example, children use a magnet to "fish" out picture cards. The pictures are of single-syllable words with two to four phonemes such as *toe*, *dog*, and (the more challenging word) *snake*. Each child catches a fish and identifies the word. Then the teacher uses scaffolding to help children segment that word. At first the teacher uses intense scaffolding to demonstrate and lead all the children in the group in segmenting each phoneme. The teacher segments and holds up a finger as she articulates each phoneme; the children hold up their fingers, echo the phonemes, and then count their fingers along with the teacher as she segments the word into phonemes again.

Teacher: You caught *bed*. Let's count *bed*. Get ready to put up your fingers. /b/ /e/ /d/. [extending three fingers, one for each phoneme] How many sounds did we hear?

Children: Four! Three!

Teacher: Count my fingers. /b/ /e/ /d/. Three sounds!

Gradually, over sessions, the teacher withdraws support. In moderate scaffolding the teacher may pause before beginning to segment the word because

Table 1
Scaffolding Phonemic Awareness for Beginning Phoneme Isolation

Level of support	Information provided	Examples
Intense	Isolate and exaggerate phoneme in isolation and in the word, point to mouth and tell children to look, say the correct response, elicit response from child.	"What is the first sound in *milk, /m/m/m/m/m/ milk?* Watch my mouth, */m/m/m/m/ilk*. The first sound is /m/. You say /m/."
Moderate	Isolate phoneme and exaggerate, point to mouth and tell children to look, exaggerate phoneme in word (use two or more depending on need).	"What is the first sound in *milk? /m/m/m/m/ milk?*" [point to mouth]
Minimal	Emphasize beginning phoneme in the word.	"What is the first sound in <u>m</u>ilk?"
None	Ask the question.	"What is the first sound in *milk*?"

most children can isolate the beginning sound on their own. Then the teacher leads by saying the middle and ending phonemes as she puts up a finger for each phoneme. In minimal support the teacher pauses and lets the children lead in articulating all the phonemes. She may provide silent mouthing cues (where she gets her mouth ready to articulate the phoneme without actually making the sound) and extend her fingers for each phoneme, but lets the children segment each sound. Table 2 provides a summary of scaffolds for teaching segmenting.

Scaffolding Works

We have collected data on the level of phonemic awareness reached by both preschool and kindergarten children in over 30 classrooms as part of our project. Over 75% of the preschool children entered kindergarten being able to isolate 7 or more of 10 beginning sounds in words. Only 5% of the preschoolers could not demonstrate this ability on at least two or three words before kindergarten. In the middle of their kindergarten year, all project children except one could isolate consonant beginning sounds, almost all children could segment three-phoneme words into at least two phonemes (often the beginning and ending phonemes), and more than half of

the children could correctly segment the entire word. Both preschool and kindergarten teachers reported that they found teaching phonemic awareness less frustrating. It is important to keep in mind that 90% of the preschool children included in our project were considered at risk because of low family incomes. Thus, we found that teachers were able to use scaffolds during instruction, drawing upon practices that are supported by what we know about how children learn and what we know about phonemic awareness acquisition. The impact of these practices was that most preschool and kindergarten children at varying levels of skill made progress in acquiring even complex levels of phonemic awareness.

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Table 2
Scaffolding Phonemic Awareness for Segmenting Phonemes

Level of support	Information provided	Examples
Intense	Slowly isolate each phoneme in the word while raising a finger for each phoneme. Call on child to count the fingers of teacher. Confirm correct number, repeat segmented sounds.	"The word is *red*. Get your fists ready to count the sounds. /r/. [raise one finger] /e/. [raise second finger] /d/. [raise third finger] Yes, /r/ /e/ /d/. How many sounds? Count my fingers. Right; three sounds. /r/ /e/ /d/."
Moderate	Get mouth ready to say the first phoneme, but pause for children to say it, raise finger, then slowly say the middle and end phonemes and raise fingers. Have child tell how many phonemes.	"The word is *red*. Get your fists ready. You say the sounds this time. [mouth /r/, but do not make the sound aloud; raise finger] /e/ [raise finger], /d/ [raise finger]. Yes, /r/ /e/ /d/. How many sounds?"
Minimal	Get the mouth ready to say each phoneme. Raise finger for each phoneme. Say aloud only the middle sounds.	"The word is *red*. Get your fists ready. [mouth the sound /r/; raise finger] /e/ [raise second finger], [mouth /d/; raise third finger]. Yes, /r/ /e/ /d/. How many sounds?"
None	Ask the question.	"What are the sounds in *red*?"

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McGee teaches at The Ohio State University, Columbus, USA; e-mail mcgee.148@osu.edu. Ukrainetz teaches at the University of Wyoming, Laramie, USA; e-mail tukraine@uwyo.edu.

Lesson Link

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