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Brief 4 • July 2016

Phonemic Awareness:
The Single Sound Challenge

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Introduction

For more than 30 years, converging research has recognized phonemic awareness as the most important pre-reading skill for students to develop and the most potent predictor of reading success (Foorman et al., 2016; Liberman et al., 1989; Liberman & Shankweiler, 1985; National Reading Panel, 2000; Torgesen et al., 1997), more predictive than a child's IQ or socioeconomic level (O'Connor, 2014). Phonemic awareness is the most complex of the broader set of skills referred to as phonological awareness (refer to the brief in this series *Phonological Awareness: An Essential Component of Reading Instruction*). Students have phonemic awareness when they can segment, blend, and manipulate individual sounds in words, such as /m/ in *mat*, /sh/ in *fish*, and /u/ in *cut*. When students in prekindergarten to grade 2 are taught to be sensitive to the individual sounds in words, they typically learn to read well. If they do not develop phonemic awareness and fall behind in reading in the early grades, they typically don't catch up with their peers (Stanovich, 2000; Juel, 1988; Pressley, 1998).

Note: In this brief, a pair of slanted lines (/ /) is used to denote a particular sound. For example, /c/ and /ake/ indicate the first sound made by the *c* in *cake* and the sound made by the remaining letters, *a–k–e*.

What It Is

Phonemic awareness is the knowledge that words can be broken into individual sounds, called phonemes. Students who have this knowledge can segment words into separate sounds (*cat* = /c/ /a/ /t/) and blend sounds (/c/ /a/ /t/ = *cat*). They are also able to manipulate sounds in words, such as eliminating sounds (*slip* – /s/ = *lip*) or adding sounds (/t/ + *rip* = *trip*). Once students have acquired this awareness, they can be taught that letters represent sounds. This understanding of letter-sound correspondence is referred to as the alphabetic principle or letter-sound correspondence and supports the ability to read and spell (Moats, 2011).

Developing phonemic awareness is important in learning to read in all alphabetic languages. Students who are learning English can be taught phonemic awareness in their first language before they learn it in English and in English before they are able to read (Linan-Thompson et al., 2006; O'Connor et al., 2013).

What It Looks Like

Phonemic awareness is first taught with no print. It could be taught in the dark! Once students understand the concept and can segment and blend three-phoneme words, the sounds can be associated with letters (Ball & Blachman, 1991).

It is essential that instruction in phonemic awareness occurs in small groups (Foorman & Torgesen, 2001) and that the teacher implements the features of effective instruction: explicit instruction with modeling, systematic instruction with scaffolding, multiple opportunities for practice, and immediate corrective feedback.

Explicit instruction with modeling: The teacher models the letter sounds clearly and correctly. Most teachers find this harder than expected. The vowels and continuous sounds are easy, but often teachers place a schwa after a stop sound, saying /buh/ or /cuh/ instead of /b/ and /c/. Other challenging letters are *q*, *w*, and *y*. Videos are available to assist teachers in learning the correct pronunciation of letters (see the Reading Rockets website).

Systematic instruction with scaffolding: The teacher carefully sequences the skills taught, starting with the easiest and moving toward the more difficult. Catts (1995) provides guidance about the difficulty level of phonological awareness skills:

- Size of the spoken sound. It is easier to blend /cow/ + /boy/ than /c/ + /ow/.

- Complexity of the linguistic skill. For example, rhyming is easier than manipulating phonemes. It is easier to rhyme *cat* and *hat* than to say *tack* backwards, *cat*. It is easier to segment words (*must* = /m/ /u/ /s/ /t/) than to blend sounds into a word (/m/ /u/ /s/ /t/ = *must).*

- Number of units in the word. It is easier to segment and blend two phoneme words (such as *at*) than a five-phoneme word (such as *scratch*, /s/ /c/ /r/ /a/ /tch/).

- Position of the sound within a word. It is easier to recognize the beginning, or first, sound of a word (/c/ in *cob*). The next easiest is the ending, or final, sound (/b/ in *cob).* The most difficult is the middle, or medial, sound (/o/ in *cob).* Hearing the separate sounds in a blend is also difficult (for example, /s/ /t/ /r/ in *street).*

- Continuous sounds or stop sounds. Continuous sounds, such as all the vowels and letters that you can continue to say (/m/ or /s/), are easier to blend and segment than stop sounds, such as /t/ or /b/.

Teachers can provide scaffolds for students who find phonemic awareness difficult. A scaffold for students having difficulty is to first teach continuous sounds and stretch the sounds—for example, saying /mmmm/ /aaaaaa/ /nnnnn/. It also helps to have the students look in a mirror while saying the sounds so they can discern the difference in the shape of their mouth between the /m/ and the /n/, for example. Looking in a mirror and feeling their mouth as they make each sound helps students understand the uniqueness of sounds. In addition, students can refer to pictures of the position of the mouth and tongue when different sounds are made (Ehri, 2014; Lindamood & Lindamood, 1998).

Teachers can use pictures to help build vocabulary and phonemic awareness. For example, presented with three pictures, students choose the one that starts with a certain sound. First, the teacher tells the students the name of each picture (*sun, pig, mat*) and the students repeat the words. Then, the teacher asks them to say the name of the picture that starts with /s/ or /sssssss/ (elongated). The students say *sun*. Eventually the students will be able to say the individual sounds: /s/ /u/ /n/.

Multiple opportunities for practice: Some students arrive at school phonemically aware. Others need a great deal of practice. Small-group work provides time for students to say the sounds chorally as well as individually, and the teacher can hear each child. About 15–20 minutes of instruction in phonemic awareness per day is required for most students. Others will need more instructional time. O'Connor (2014) recommends the practice of "pocket students." Teachers carry four to five cards, each card for a different student. On the card are words for

the students to practice segmenting, blending, or manipulating phonemes. Whenever the teacher passes by a child, the teacher uses the card as a reminder to ask the child to practice the skills. For example, Mary may have difficulty identifying medial sounds in words. Her card will contain some words with medial sounds she knows as well as examples of sounds that are challenging her. Mary's card may have the words *cat* and *can* (/a/ is easy for her) and *cot*, *pot*, and *dot*, as the /o/ sound is harder for her to isolate. Mary doesn't read the words. Rather, the teacher says the words and asks Mary to identify the sounds. Remember, at the beginning, phonemic awareness involves no print, only listening.

Immediate corrective feedback: Teachers cannot allow students to practice the sounds incorrectly. Immediate correction, often providing scaffolds, is required. For example, the teacher asks the student to say the medial sound in *fit*. The student says, "/a/." The teacher responds, "No, you said /a/. Listen to me say the word (teacher elongates, /fffffff/ /iiiiiii/ /t/). Let's say the word slowly together. Now you say the word, slowly. Say the word again, and I'll stop you after the middle sound." The student says, "/f/ /i/." The teacher interrupts, "Stop! What sound did you just say? Yes, /i/. Now try the entire word. What word? What sounds?"

Benefits

- Students who, by the end of first grade, understand the concept of phonemic awareness are more likely to be successful readers and spellers than those who do not.
- Phonemic awareness instruction that is deliberate and carefully planned is engaging and playful and promotes success for each child.

What the Research Says

Phonemic awareness is the following:

- An essential component of learning to read
- Important for all students, including English language learners and students with reading disabilities
- Important, as it leads to more accurate and efficient reading and spelling
- Taught explicitly and systematically with ample modeling and scaffolding.
- Best taught in small groups focused on a single skill at a time

To effectively decode words (convert from print to speech) and encode words (convert from speech to print) words, students must be able to do the following:

- Identify the individual sounds, or phonemes, that make up the words they hear in speech
- Name the letters of the alphabet as they appear in print
- Identify each letter's corresponding sound(s) (Foorman et al., 2016)
- Recognize and manipulate segments of sound in speech
- Make letter-sound relationships
- Use knowledge of phonemic awareness and letter-sound relationships to build and spell words (Foorman et al., 2016)

Examples

When students can segment and blend each word in compound words and have an understanding of on-set-rime (*cake = /c/ + /ake/ = cake)*, they are ready to begin work with phonemes.

One way to start is to have the student sort pictures based on the initial sound of the object in the picture. For example, show pictures of a ball, a bat, a cat, and a car. The students sort by the first sound, so *ball* and *bat* are placed in one pile and *cat* and *car* in another. Teachers can also use real objects, which are interesting for students to manipulate. For example, they can sort *fork* and *fan* into the /f/ pile and *band* and *bowl* into the /b/ pile.

Elkonin boxes, often referred to as the "say it and move it activity," allow students to manipulate tokens representing sounds. A recent report, *Foundational Skills to Support Reading for Understanding in Kindergarten Through 3rd Grade,* provides an example (Foorman et al., 2016).

Elkonin Sound Boxes Procedure

Have students use sound boxes to mark the phonemes in selected two- or three-phoneme words. Provide each student with a set of boxes matching the number of phonemes in the selected word. Place either a colored disc or a letter tile over each box, depending on his or her familiarity with printed letters. Tell students the first word. Have students repeat the word slowly, pulling one disc or letter tile down into the box for each unique sound they say. Then, have students run their finger under the boxes, to the left or right, as they blend the individual sounds together and say the word.

If students are using colored discs, try to select words featuring consonants that are produced by creating a continuous flow of sound (i.e., *f, h, l, m, n, r, s, v, z*). Words featuring continuous sounds are easier for students to elongate as they identify the unique sounds. Use words featuring continuous sounds until students are able to recognize the unique sounds in a word.

If students use letter tiles, select words that contain letter sounds that students have already learned so that they will be successful in mapping the printed letter tiles to the sounds used in the activity. Additionally, if students struggle to distinguish sounds, draw attention to specific sounds by presenting students with words that differ by only one phoneme, such as *dog* and *dig*.

Once students have learned to connect several sounds to print, repeat this exercise, having them write the corresponding letters in the boxes, rather than pulling down discs or letter tiles.
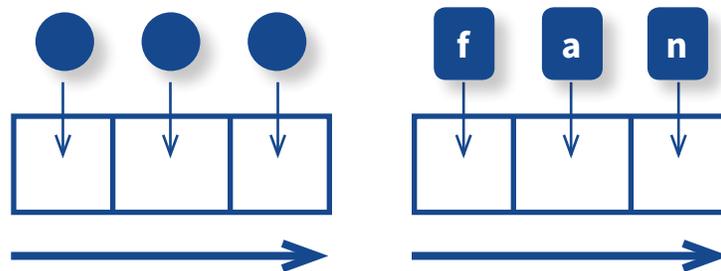
Once students are able to isolate phonemes in speech, the teacher introduces the corresponding letters. The teacher can add chips with letters on them and students can begin to say the letter sounds and move the tokens into the boxes.

Sticky notes can also be used and are a good way for teachers to model the skill. The teacher uses a different sticky note for each sound, all the same color, moving the sticky note from the top of the chart down toward the

middle. For example, if the word is *mat*, the teacher places three sticky notes on the chart and moves one down as he or she says each sound (/m/ /a/ /t/). The students then do the activity with teacher supervision. As the students learn the phonemes, they match the sound to letters.

The Foorman panel suggests the following sequence for introducing letters:

- Begin with consonants and short vowels represented by single letters, such as *s, d, p, a*.

- Introduce consonant blends (e.g., *fl, sm, st*), asking students to pronounce each sound in the blend.

- Teach common two-letter consonant digraphs (e.g., *sh, th, ch*). Digraphs make a single sound and must be taught as a unit.

- Teach long vowels with the silent *e*, such as in *cute*. Students should learn that the word *cut* becomes *cute* when the silent *e* is added.

- Lastly, teach two-letter vowel teams or vowel digraphs, such as *ea* and *ou*. Start with the most common sounds first, such as the long *e* sound in *beat*, *leak*, *cleat* before you teach the much less common sound of long *a* as in *great*, *break* and *steak* (Foorman et. al., 2016).

When introducing phoneme-grapheme correspondence (sound-letter relationships), the teacher says the phoneme and then teaches the letter that represents the phoneme. Introduce both uppercase and lowercase letters. Using letter cards with memorable pictures and a short story about the letter, typically provided in reading programs, helps students remember the letter-sound connection.

An activity that reinforces phoneme-grapheme relationships is orthographic mapping. As students learn the letters that represent sounds, they write the letter(s) that represent each sound in separate boxes. For example, the teacher dictates *cat*, *stop*, and *ship*. The students write:

c	a	t	
s	t	o	p
sh	i	p	

Implications for Practice

- Teachers must pronounce the sounds correctly. Do not add a schwa (i.e., short *u* sound) to those stopped consonants! Enunciate the different sounds in *pen* and *pin*, for example.

- Use one-syllable words to teach phonemic awareness.

- Provide multiple opportunities for students to practice phonemic awareness. This can be done several times during the school day during "down" time.

- Teach phonemic awareness in small groups.

- Difficulty with phonemic awareness is an indication that a student may have dyslexia and needs appropriate intervention instruction.

- When using your fingers to model counting phonemes, be sure to use your left hand so that from the students' point of view, you are counting in a left to right direction, as we read.

Conclusion

Phonemic awareness is a complex, essential skill for young children to learn. For most children, explicit instruction for several weeks is all that is necessary for them to learn to identify, segment, blend, and manipulate phonemes; other children may need more systematic and intensive instruction to learn this skill. All children should continue to be made aware of the sounds and words and corresponding letters as such knowledge will support decoding and spelling.

Helpful Websites

Building RTI Capacity: **http://buildingrti.utexas.org**

Videos, papers, and myriad resources provide explicit examples of activities to teach phonological awareness.

Check out this video: *3-Tier Reading Model, Reading Intervention: Tier II.* The teacher models all the stages of phonological development and the features of effective instruction.
http://buildingrti.utexas.org/videos/3-tier-reading-model-reading-intervention-tier-ii

Florida Center for Reading Research: **www.fcrr.org**

Activities, including colored and blackline masters, for building phonological and phonemic awareness with a whole class, in small groups, and 1:1, for various grade levels.
http://www.fcrr.org/for-educators/prek_cca.asp

The Meadows Center for Preventing Educational Risk: **www.meadowscenter.org**

A presentation including a presenter's guide, presentation slides, handouts with activities and resources, and references is available, *Foundations of Reading: Effective Phonological Awareness Instruction and Progress Monitoring*:
www.meadowscenter.org/library/resource/foundations-of-reading-effective-phonological-awareness-instruction-and-pro

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