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Phonemic Awareness and Young Children

Over the past 20 years, considerable research has been devoted to phonemic awareness and the role it plays in young children's learning to read (Cunningham, 1990; Stanovich, 1986; Wagner et al., 1997). Unfortunately, much of this work has been limited to the research community and to elementary school reading teachers. It has not been effectively communicated to one of the most important audiences—teachers of young children. This lack of communication may be due to misconceptions about phonemic awareness. Teachers of young children may be reticent about discussing phonemic awareness because they assume that phonemic awareness is 1) phonics, and 2) not developmentally appropriate for young children.

What Is Phonemic Awareness?

According to a recent joint position statement by the International Reading Association (IRA) and the National Association for the Education of Young Children (NAEYC), phonemic awareness is "typically described as an insight about oral language and in particular about segmentation of sounds that are used in speech communication" (NAEYC/IRA, 1998). In other words, phonemic awareness is the ability to auditorily recognize and manipulate individual sounds in words. The initial emphasis is placed on auditory recognition because 1) the auditory processing of language helps differentiate sounds in words, and 2) often, words that sound the same do not share visually similar characteristics, such as the words "friend" and "mend," and "knee" and "bee."

A phoneme is the smallest unit of speech. In the word "cat," for example, there are three phonemes: /k/, /a/, and /t/. Letters do not make specific, consistent sounds. The specific sound that a letter makes is determined by the other letters within a given word. The sounds are determined by context. For example, the letter "a" makes a different sound in the word "cat" than it does in the word "late." Even consonant sounds change with context; the "t" sounds different in "cat" than it does in "the."

The "awareness" part of phonemic awareness is important because it implies the level of knowledge that children, especially 4- and 5-year-olds, should have. Phonemic awareness is not the *mastery* of sounds in words,

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but rather the *awareness* of those sounds in words. Children can have phonemic awareness without knowing the letter name or the label for the sound. Part of phonemic awareness is the understanding that two words may sound the same, or rhyme, or begin with the same letter sound.

Children who are immersed in a rich language environment and who have many opportunities to play with language often naturally manipulate sounds in words. Think of children who hear a familiar word such as "man" and spontaneously play with other words, saying "can," "tam," "lamb," "van," and "Sam." While the children may not be aware of the names for the different sounds in the words or understand why the words rhyme, they are aware that they can create words that sound the same and, more important, that this activity is fun. In the course of playing with rhyming words, the child may invent words to fit the rhyme. For instance, the child may begin with the words "cup" and "pup," and continue with invented words such as "lup" and "rup." The child may not yet understand that some of the rhyming words are not real; at this point, however, it is not important for the child to produce real words. Playful manipulation of words and sounds in words still represents an important first step (Yopp, 1992).

Although the terms sound similar, phonemic awareness is not the same thing as phonics (IRA, 1998). While phonemic awareness is a precursor to understanding letter sounds in words, it is not the systematic presentation of letter sounds in words. Regardless of the method used to teach reading (whole language, systematic phonics, or a combination of the two), children first need a strong basis in phonemic awareness.

What Research Says About Phonemic Awareness

The research in early literacy amply documents the role that phonemic awareness plays in early literacy acquisition (for extensive reviews, see Adams, 1990; National Research Council, 1998). Four particularly important findings from this research are outlined and discussed below.

First, a relationship exists between young children's

phonemic awareness and their subsequent reading achievement in the 1st and 2nd grades (Adams, 1990; Juel, 1988; Stanovich, 1986). That is, children who know how to manipulate sounds in words at an early age have greater success in learning how to read in the 1st and 2nd grades. The opposite is also true. Preschoolers and kindergartners with poor phonemic awareness tend to have difficulty learning to read later on (Scanlon & Vellutino, in press; Vellutino et al., 1996). In particular, children whose home environments lack print-rich experiences have weaker phonemic awareness and

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experience a higher rate of subsequent reading problems (Robertson & Brady, 1993).

Second, children as young as 3 and 4 have demonstrated phonemic awareness. Maclean, Bryant, and Bradley (1987) assessed 3- and 4-year-olds on a variety of phonemic awareness tasks, such as knowledge of nursery rhymes, beginning sounds of words, and word segmentation. This sample of children, chosen from a middle- and working-class section of England, participated in organized play groups and had significant experience with language. More than half of the 3-year-olds demonstrated either some understanding of rhyming words or an awareness of sounds in words. Most of the 4-year-olds were able to recognize words that rhymed, as well as words that shared similar beginning sounds. This study suggests that young children are interested in, and can attend to, sounds in words.

Third, opportunities to play with language result in the development of phonemic awareness (Bryant, Bradley, Maclean, & Crossland, 1989). In a study by Maclean et al. (1987), young children who were knowledgeable about nursery rhymes and who had opportunities to manipulate sounds in language also had well-developed phonemic awareness. Nursery rhymes are a natural way to expose children to words that sound the same. Other research suggests that by learning rhymes, poems, and jingles children develop awareness of sounds in words (Yopp, 1992). Natural play with language can encourage children to attend to the sounds that words make.

Fourth, adults can create opportunities for children to learn phonemic awareness (Byrne & Fielding-Barnsley, 1991; Lundberg, Frost, & Peterson, 1988). This is an important finding, because it implies that schools and other settings can provide opportunities to become phonemically aware for children who may not have these experiences at home. Teaching phonemic awareness to 1st- and 2nd-graders who have had difficulty reading resulted in significant improvements in their ability to read and spell words (Vellutino et al., 1996).

Research also has shown that children learn phonemic awareness best when provided with an explanation of what it means for words to have similar sounds, and what it means to hear sounds in a word. Cunningham (1990) demonstrated that children who are provided with an explanation of the underlying purpose and meaning of the phonemic awareness activities outperformed children who were not given an explanation for the skills being taught.

The Development of Phonemic Awareness

Research points to a developmental progression in children's acquisition of phonemic awareness (Adams, 1990). As young children develop language, they begin attending to sounds in words. Initially, children can recognize words that rhyme and those that have the same beginning sounds. With increasing opportunities to hear and play with language, such as those provided by nursery rhymes, children can produce and discriminate among words with similar beginning and ending sounds. Initial letter isolation, the ability to identify the initial letter sound of a word, such as the /k/ sound in cat or the /d/ sound in "dinosaur," is one of easiest tasks for young children (Stahl & Murray, 1994). Initial letter isolation differs from the ability to produce words that have the beginning sound, as it requires the child to separate the initial sound of a word from the whole word, as opposed to producing words that begin with the same sound, which is a more difficult skill.

As children gain more experience with language and with manipulating sounds in words, they can identify the syllables, or the sound chunks, in words. This is a more complex task, one that kindergartners more consistently demonstrate than younger children do (Share, Jorm, Maclean, Matthews, & Waterman, 1983). By segmenting the syllables of words, children begin to understand that words can be broken down into chunks of sounds. The word "dinosaur," for instance, is composed of three chunks of sounds: din-o-saur.

Eventually, as children become more adept at identifying syllables in words, they can focus on the individual phonemes in each syllable. For example, children begin to hear the three distinct sounds in the word "bat," which are /b/, /a/, and /t/. It is important to understand that the progression from hearing similar sounds in words to identifying individual phonemes varies for each child, and that the experiences offered should be appropriate for the readiness of the child. For example, individual phonemes should not be emphasized when children are just starting to hear the similarities of beginning and ending sounds in words. In addition, do not expect children to master syllable segmentation early on.

Creating a Classroom Environment That Supports Young Children's Phonemic Awareness

In helping young children to become literate, it makes sense to encourage the development of phonemic awareness. However, we must avoid creating an environment in which children are drilled in phonemic awareness, especially if the associated activities are separate from regular classroom activities.

Phonemic awareness can be incorporated into preschools and kindergartens in a developmentally appropriate fashion. Young children can easily understand the idea that things make sounds. In pretend play, children frequently imitate the sounds of animals and mimic the sounds of objects such as cars and airplanes. They understand that words make sounds, and sometimes words sound the same, such as "moo" and "boo." Storybook reading, nursery rhymes, poetry, and circle time activities create opportunities for children to attend to the sounds in language.

Storybook Reading. Reading stories aloud provides a great opportunity for young children to hear sounds in words within the context of connected text. Many good children's books can facilitate the development of phonemic awareness. Many of the books recommended by Yopp (1995) reinforce the patterns found in natural language and facilitate children's attention to the sounds in words.

Storybooks that contain rhyming words appeal to young children and can facilitate phonemic awareness

development. Many of the Dr. Seuss books, with their silly stories using rhyming words, are a great source of fun and provide opportunities for playful experiences with language. It is best to choose stories with rhyming words that are easy for young children to hear. This means that the rhyming words should be in close proximity to one another in the story and simple enough for children to understand. Some Dr. Seuss books are better than others in this respect, such as *One Fish, Two Fish, Red Fish, Blue Fish*; *Hop on Pop*; *Green Eggs and Ham*; and *Wocket in My Pocket*. In these books, the rhyming words are in close proximity to one another, are easy for young children to discern, and follow a defined, predictable pattern. In contrast, although such books as *The Cat in the Hat* and *The Cat in the Hat Comes Back* contain many rhymes, the rhyming words are scattered throughout the text. This can make it difficult for young children to distinguish the few words that sound the same.

Storybooks containing alliteration provide opportunities for children to hear words that have the same beginning sounds. The repetition of "Trip, Trap, Trip, Trap" in *Three Billy Goats Gruff*, for example, or the many words beginning with the letter "d" in *Dinorella* by Pamela Duncan Edwards, provide opportunities for children to hear certain sounds repeated.

Alphabet books are another way to expose children to the beginning sounds in words, by allowing children to hear both a letter and a word that begins with the letter. *Dr. Seuss's ABC Book* and the *Berenstain Bear B Book* are good examples of such books. Books that contain objects, animals, or themes that young children can understand and relate to will help facilitate phonemic awareness. Shirley Hughes's *Alfie's ABC's* is a good example of an alphabet book that presents objects that can be easily identified by young children. In contrast, if children hear that "Q" is for "quetzal," a word they may not know and would have limited experience with, the task of understanding how "Q" relates to the word becomes too difficult. Other alphabet books, such as *Chicka Chicka, Boom Boom*, weave a story around the letters and create a context for a repeated pattern of alliterative and rhyming words.

Phonemic awareness activities can be used to introduce young children to new vocabulary. Having children clap the syllables of new words as they hear them will help them to hear, and pronounce, all the sounds in the word. For example, as children learn about plants and come across the word "daffodil" for the first time, they could clap the syllables as they pronounce this new word. This clapping activity can draw children's attention to each sound in the word, as well as direct their attention to hearing the different parts of a "big word."

After reading storybooks that contain rhymes and/

or alliteration, teachers can engage the children in story extension activities that promote thinking about sounds and words. For example, after reading *Dinorella*, the children can draw pictures of all the things they know that also begin with "D." The teacher also can ask if anyone's name begins with the same sound. Such story extensions can help the children make connections between what they learned from the story and what they know from their own experiences. With repeated discussion about and exposure to listening to sounds in words, the children will begin to think about words in this way.

Nursery Rhymes, Jingles, Poems, and Finger Play Activities. Children love nursery rhymes, jingles, poems, and finger play activities. Such activities allow children to hear the rhythm of language, as well as words that have similar beginning and ending sounds. When reciting a nursery rhyme, teachers can ask children to listen for words that sound alike.

Nursery rhymes, jingles, and poems are often heard and shared in preschool and kindergarten classrooms. What is often missing, however, is a conversation about how words can sound the same. When introducing young children to rhyming words, teachers can discuss what it means for words to rhyme and how we can train our ears to hear words that sound the same.

It is important to use care when selecting the nursery rhymes, jingles, finger plays, and poems to use in phonemic awareness activities. Here are some guidelines that may be helpful to consider. First, select poems and rhymes that actually do contain rhyming words. Many popular rhymes, such as "This Little Piggy," do not contain true rhyming words, and thus will not promote phonemic awareness. The rhyme is "This little piggy went to market/ This little piggy stayed home/ This little piggy had roast beef/ This little piggy had none/ And this little piggy cried, Wee-wee-wee/ All the way home." "None" and "home" are only partial rhymes, and they are far apart in the poem.

Second, it is easier for young children to hear words that rhyme if they are in close proximity to one another. In many poems and rhymes, the rhyming pattern is ABAB and so the rhyming words are not in consecutive lines, but rather in every other line. It is easier for young children to hear rhyming words that are situated in closer proximity. The rhyme "One, two/ Buckle my shoe" is a good example of a poem with rhyming words that are in close proximity to one another.

Teachers can encourage children to make up their own rhymes and jingles, using their own names or the names of their classmates. Names are very special and salient to young children. Playing rhyming games with, or creating jingles about, their names will help them understand the role that sounds play in words.

Circle Time Activities. Circle time activities typically

revolve around the calendar, the weather, the daily schedule, and topics that the children are learning as part of a class theme. Any one of these activities can be used to help make students aware of sounds in words. For example, if a child reports that it is raining, the teacher can ask if anyone can think of a word that rhymes with "rain." The teacher can also ask if anyone can think of a word that begins with the same sound as rain. In another example, if the children are learning about seeds and plants, the teacher can talk about what a seed is and ask what sound the word "seed" begins with. The teacher can model making these connections for children—pointing out that the words "seed" and "soil" begin with the same letter and sound, for example—so that they can begin to see the relationship between words themselves. As the children repeat the two words, "seed" and "soil," they can hear the /s/ in both words. The teacher can also ask which classmates' names begin with the same sound as "seed" and "soil."

Because phonemic awareness relies significantly on the ability to hear sounds in words, it is best to conduct these activities orally and avoid visual presentation of words for these activities until the children's auditory skills are well-established and they can begin to understand inconsistencies between the way words sound and the way they are spelled. Words that sound the same can look very different from one another. For example, while word pairs like "hare" and "pair" or "bow" and "toe" may rhyme, they are visually dissimilar. Words in poems or rhymes that sound the same but look different can be confusing for young children (Yopp, 1992). Therefore, it is not necessary, and may be undesirable, to write the words that sound the same on the board. The primary goal is training the ear to hear distinctions.

Writing. Providing children with opportunities to write helps strengthen the connections among speech, sounds in words, and written words. If Tommy writes a straight line to represent his name, he is beginning to understand the relationship between print and the spoken word. Sulzby (1992) showed that even very young children can "write." In writing, children are faced with the challenge of hearing a word and trying to think of the sounds in the word. They often may depict sounds by using just one or two letters, such as "J" for Julia or "DS" for dinosaur. Invented spelling helps children focus on the sounds that they hear in words. As they begin to understand the relationship between writing and speech, make sure to praise whatever the children produce.

Creating opportunities in the classroom to facilitate children's expression in writing is an important step in making them aware of sounds in words. A good start is by having children write their names on their artwork. This initial writing will take many forms, de-

pending on the experiences of the child. If the child puts the letter "S" for Sally on her picture of a seed, the teacher can ask if the words "Sally" and "seed" have any sounds in common. Ask questions that direct the children's attention to sounds in words.

Beginning With What Is Familiar to the Child. The classroom offers many opportunities for children to hear their names and those of their classmates. They can learn the beginning sound of the names, and also learn to manipulate those initial sounds. Children can play a game in which they pretend that all their names begin with the /b/ sound (i.e., Tommy would be "bommy" and Joe would be "boe"). Have the children play with the sounds in their names and manipulate the initial sounds. As children gain experience playing with the initial sound of their names, this activity can be extended to include other familiar words such as the days of the week, words from frequently read books, and names of classroom pets.

Making Connections Across the Curriculum. Virtually any activity focusing on phonemic awareness can be fun and help children learn about sounds in words, but they will only be meaningful if they are integrated into the context of the classroom. Storybooks, rhymes, jingles, and poems that are being used to emphasize phonemic awareness need to be connected with themes or topics presented in class. When opportunities present themselves, identify words with the same beginning sound. For example, when a child says that he was playing with a snake in the sand, the teacher can ask questions to direct the child's attention to the same sound that begins "snake" and "sand."

If the children are working on a theme about animals, books on animals that emphasize ending rhymes and alliteration could be incorporated. The same is true for selecting poems and nursery rhymes. Selecting materials that are tied to the larger topic of the class will help the children make connections between different activities. Also, as children learn new vocabulary words related to a topic, the teacher should help them focus on the beginning and ending sounds in the words. If the word has many syllables (such as "rhinoceros"), the children can clap out the number of syllables in this new word. The goal is to create opportunities for children to attend to sounds in words and relate what they already know to new words and sounds they are learning. Using natural opportunities in the classroom to compare words with similar beginning sounds can facilitate this process.

Conclusions


Phonemic awareness activities can be woven into an early childhood classroom curriculum to create a seamless connection between regular classroom activities and those that emphasize sounds in words. Research

suggests that children who have advanced phonemic awareness are more ready to learn to read and are more successful at it. Learning to read is a complex process that begins long before 1st grade. The foundation is laid when the child begins to learn language and understand speech (Wells, 1986). Teachers of young children can facilitate the reading readiness process in a developmentally appropriate fashion by providing opportunities for children to comprehend the relationship between sounds and words, as opposed to presenting concepts in isolation. In achieving phonemic awareness, young children can develop a foundation for understanding sounds in words in an appropriate context and through appropriate methods. Children need to learn phonemic awareness by engaging in fun and motivating activities that promote the recognition and manipulation of sounds in words.

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