Bridging the Vocabulary Gap

What the Research Tells Us about Vocabulary Instruction in Early Childhood

Tanya Christ and X. Christine Wang

Ms. Allen has gathered the 4- and 5-year-olds on the rug, where she reads them Jeannie Baker's book, *Where the Forest Meets the Sea.*

Ms. Allen: (Reads) *My father knows a place we can only reach by boat.* (Pauses) Where do you think they are going?

Patrick: An island?

Abby: Somewhere far away.

Ms. Allen: Let's keep reading to see if Patrick and Abby are correct. (Continues reading) *Not many people go there, and you have to know the way through the reef.*

Abby: Where is the reef? I don't see it.

Ms. Allen: A reef is under the water and is very sharp, so the boat needs to go around the reef so that it doesn't get caught on it. (Continues reading) *When we arrive, cockatoos rise from the forest in a squawking cloud.* (Looks to the children) What makes a squawking noise?

Daren: Oh, I know! A bird!

Ms. Allen: Yes, Daren, exactly. Now, look at the illustration—what do you see that could be the squawking cloud?

Daren: All of those birds.

Ms. Allen: Yes. Do you recall what the name of those birds was? Listen while I read that part again: *When we arrive, cockatoos rise from the forest in a squawking cloud.*

Abby: Oh, they're cockatoos!

Ms. Allen: How did you know, Abby?

Abby: Because they squawk and they look like a cloud.

Ms. Allen: (Several pages later, still reading) *On the bank of the creek, the vines and creepers try to hold me back. I push through. Now the forest is easy to walk in.* Can someone point to the vines?

Moses: Oh! (Raises his hand very high)

Ms. Allen: Moses, come point to the vines.

Moses: They're right here. (He points them out in the illustration.)

Ms. Allen: What do you know about vines?

Abby: They grow on trees.

Daren: They grow across trees, and they're very twisty.

Moses: Monkeys swing [on them].

Ms. Allen: Yes. And if monkeys can swing on them, they must be strong, so they might be difficult to push through. How do you think the boy managed to get through the vines?

Patrick: He probably had a knife.

Abby: Or he's really strong, like Superman.

IT IS IMPORTANT FOR CHILDREN to develop knowledge of words' meanings from a young age because vocabulary development has an impact on their reading comprehension and academic success as they get older (Chall, Jacobs, & Baldwin 1990). Put simply, when children do not understand the meanings of important words in a text, they are unlikely to understand the text. Therefore, the vocabulary instruction that Ms. Allen provides is a critical aspect of early literacy instruction.

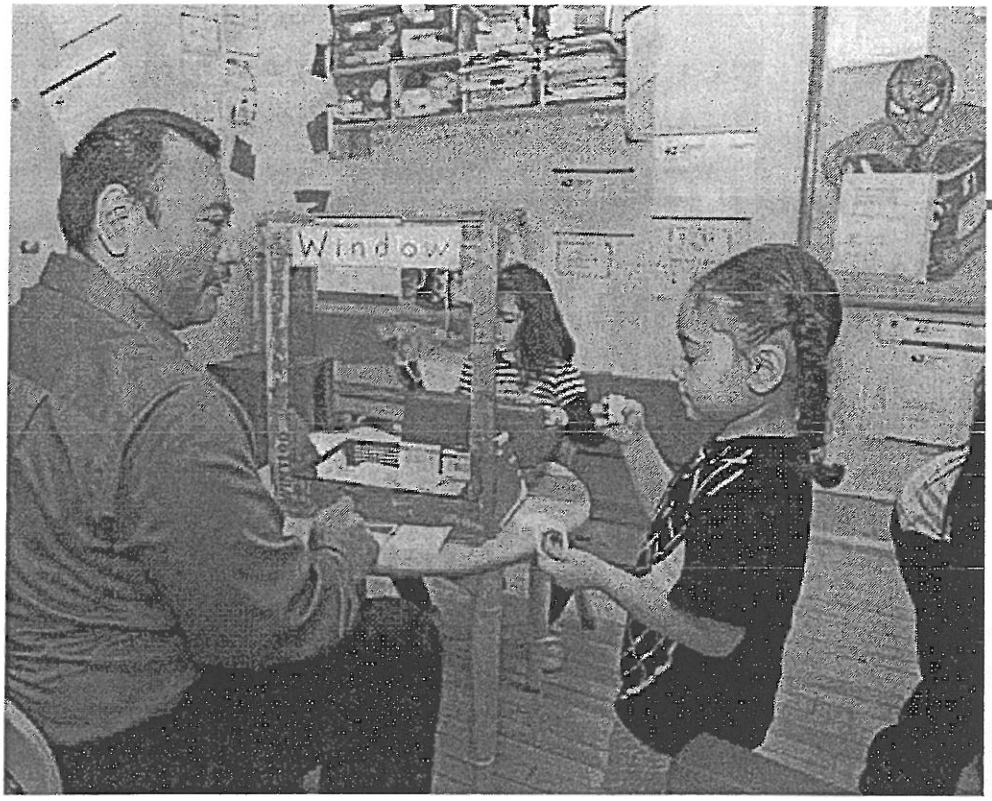
Some children come to school knowing far fewer words than others. Hart and Risley (1995) studied young children's vocabulary development and found that when children from families with low incomes were 3 years old, they knew 600 fewer words than children the same age from families with upper incomes. By grade 2, the gap widens to about 4,000 words (Biemiller & Slonim 2001). These facts heighten the need to purposefully teach vocabulary in early childhood, especially in programs

Tanya Christ, PhD, is an assistant professor in the Department of Reading and Language Arts at Oakland University, in Rochester, Michigan. Her research focuses on early childhood reading intervention, particularly supporting children's vocabulary acquisition to facilitate reading comprehension in later grades. Christ@oakland.edu

X. Christine Wang, PhD, is an associate professor in the Department of Learning and Instruction at the State University of New York at Buffalo. She is working with Tanya Christ to develop "Little Word Wonders," a supplementary vocabulary curriculum for preschoolers. wangxc@buffalo.edu

This Research in Review article was edited by journal research editor **Sharon K. Ryan,** PhD, associate professor of early childhood education at the Rutgers University Graduate School of Education.

This article is available in an online archive at **www.naeyc.org/yc/pastissues.**



© NAEYC/Susan Woog Wagner

serving children from low-income households.

This review identifies effective ways for teachers to help young children learn new word meanings. First, we discuss factors that affect young children's vocabulary development. Then, we present four research-based vocabulary teaching practices for early childhood classrooms: providing purposeful exposure to new vocabulary, intentionally teaching word meanings, teaching word-learning strategies, and giving children opportunities to use newly learned words. We conclude by offering classroom tips on vocabulary instruction based on our review of the research.

Vocabulary development in early childhood

Young children are amazing word learners. During the preschool years, they quickly acquire extensive vocabularies (Carey 1978). Researchers have concluded that between the ages of 12 months and 18 years, children learn on average 10 words a day if they hear lots of new words used in their environment (Bloom 2002). Although we do not know the exact nature of the word-learning process, research suggests that to develop vocabulary knowledge, a young child needs (1) exposure to new vocabulary; (2) self-motivation and engagement; (3) multiple exposures to new words that give contextual and definitional information; and (4) the use of independent word-learning strategies (Blachowicz, Beyersdorfer, & Fisher 2006).

Word consciousness. Young children predominantly acquire vocabulary by hearing new words used in their environment (Hart & Risley 1995)—through conversations, television, and being read storybooks aloud (e.g., Rice & Woodsmall 1988; Beals 1997; De Temple & Snow 2003). However, they do not passively acquire words when they hear them (Bloom 2002). Children learn new vocabulary only if the words pique their interest (Stahl & Stahl 2004). This happens when children are *word conscious,* or interested in new word meanings. For example, when Ms. Allen reads ". . . you have to know the way through the reef," and Abby asks, "Where's the reef?" Abby is demonstrating word consciousness. She noticed a new word (*reef*) during the read-aloud and is curious about its meaning. Because noticing words and being interested in them precedes learning their meanings, word consciousness is an important aspect of vocabulary development (Graves 2000).

Fast mapping. While we do not know exactly how children acquire word meanings, research does suggest a general process that occurs over time. Initially, based on a single or limited exposure to a word, children develop a quick, partial understanding of the word's meaning—this is called *fast mapping* (Carey 1978). For example, based on the story's context, Daren deduces that cockatoos are birds—that is, he makes a connection between the word *cockatoo* and the concept of birds. Due to initial fast mapping, Daren may overgeneralize, calling other birds, like robins or blue jays, *cockatoos* (e.g., Miller & Gildea 1987). This happens because with a single exposure, it is difficult for Daren to know which specific aspects of a cockatoo to attend to in order to differentiate it from other birds (Nagy & Herman 1987; Stahl & Stahl 2004).

Knowing a word's meaning includes knowing what the word refers to and being able to limit the use of the word to actual examples—that is, cockatoos are not robins or blue jays. Fortunately, each context in which a child encounters a word typically offers additional information about the word's meaning (McKeown 1985). So, as Daren is exposed to the word *cockatoo* multiple times, he will come to know that cockatoos are part of the parrot family and are generally less colorful than other kinds of parrots. In this manner, Daren will eventually develop full and flexible knowledge of the word *cockatoo* (e.g., McKeown 1985).

Knowing a word's meaning includes knowing what the word refers to and being able to limit the use of the word to actual examples.

Word-learning strategies. To more readily acquire information about a word's meaning through multiple exposures, children need to use *word-learning strategies:* they need to notice when a new word is used, attend to clues that suggest the word's meaning, and organize this new information into their existing knowledge of word meanings. When children use word-learning strategies, they develop more nuanced understandings of words' meanings (Nassaji 2006) and can acquire vocabulary more efficiently and independently. For example, if Daren notices when the word *cockatoos* is used and knows to listen and look for clues that suggest information about cockatoos, he is more likely to integrate and organize new information about the word's meaning into his repertoire of word knowledge. Not all children strategically attend to clues in the environment to help them expand their understandings of word meanings. Therefore, children may not make full or automatic use of word-meaning clues unless explicitly taught to do so (Alexander, Graham, & Harris 1998; Siegler 2005). So, explicit strategy instruction is critical, especially for children who know fewer words.

Four research-based vocabulary teaching practices

There are four ways teachers can support young children's vocabulary learning: (1) provide purposeful exposure to new words, (2) intentionally teach word meanings, (3) teach word-learning strategies, and (4) offer opportunities to use newly learned words (see "Teaching Tips for Vocabulary Instruction").

Provide purposeful exposure to new words

As discussed earlier, young children need to be exposed to new vocabulary to acquire word knowledge, and exposure in different contexts supports their acquisition of nuanced understandings of words' meanings (e.g., McKeown 1985). Providing exposure in classrooms is critical particularly for children who enter school knowing fewer words. Early childhood teachers can expose children

Teaching Tips for Vocabulary Instruction

Instruction Method	Teaching Tip
Provide purposeful exposure to new words	Teach thematically to provide multiple exposures to words throughout the day, through read-alouds, conversations, centers, and projects. • Select books for read-alouds in which illustrations and text provide clues to word meanings. • Use an interactive read-aloud style and engage children in cognitively challenging discussions about books. • Create media centers where children view DVDs, explore electronic books, and listen to interactive read-alouds on DVD that use new vocabulary.
Intentionally teach word meanings	Use a variety of direct teaching strategies. • Ask eliciting and noneliciting questions during read-alouds to prompt children to think about new words and their meanings. • Provide an embedded definition when exposing children to a new word whose meaning is important for them to understand. • Use extended instruction to help children gain a nuanced understanding of a word's meaning
Teach word-learning strategies	Teach word-learning strategies while reading aloud. • Use the three steps for strategy instruction: model, guide, and practice. • Select books in which both text and illustrations give clues to a word's meaning.
Offer opportunities to use newly learned words	Provide a variety of opportunities for children to use newly learned vocabulary • Use concept-mapping activities to organize pictures and props related to a classroom theme or project • Have children retell, buddy read, or act out texts that have been read in the classroom • Write down stories dictated by children that are related to a classroom theme or project • Develop art and craft projects in which children can apply newly learned concepts. • Engage in inquiry projects related to the curricular theme. • Provide props related to the theme that may elicit theme-related vocabulary use.

to new words through (a) read-alouds, (b) teacher use of words, and (c) video or multimedia presentations. Learning new words through exposure seems to work best with words that represent familiar concepts (Kibby 1995). For example, if a child understands the meaning of the word *happy,* she is likely to learn the word *ecstatic* through meaningful exposures to this word.

Read-alouds. Reading books aloud in the classroom introduces children to new vocabulary in meaningful contexts. Children's books tend to contain a high proportion of advanced vocabulary (Hayes & Ahrens 1988), and children are typically engaged by a good book. Jim Trelease's (2006) *Read-Aloud Handbook* is an excellent guide to selecting high-quality books to read aloud.

When teachers read an assortment of books within a theme, they give children multiple opportunities to learn new words. For example, while the word *vine* occurred only once in *Where the Forest Meets the Sea,* it occurred 81 times in six other books about the rain forest that Ms. Allen read aloud to the children. This is important because the more frequently children hear or read a word, the more likely they are to understand its meaning (Elley 1989; Robbins & Ehri 1994).

Children's literature in which both illustrations and text provide clues to new word meanings best supports vocabulary learning (Elley 1989). *Where the Forest Meets the Sea* provides a meaningful context for the word *reef* in the illustrations and in the text. Engaging children in interactive read-alouds and cognitively challenging discussions about the books, as Ms. Allen does, enhances children's vocabulary learning (e.g., Brabham & Lynch-Brown 2002). The deeper processing required for children's participation in these activities contributes to their development of more nuanced word-meaning understanding. While reading aloud *Where the Forest Meets the Sea,* Ms. Allen stops frequently to check the children's understanding of the story by asking them to make predictions ("Where do you think they are going?") and posing questions that engage the children in critical thinking about the text ("How do you think the boy managed to get through the vines?").

> Engaging children in interactive read-alouds and cognitively challenging discussions about books enhances children's vocabulary learning.

Teachers' word use. Teachers' intentional, meaningful use of new vocabulary while talking with children is another effective way to promote

word learning (e.g., Carey 1978). This is an important teaching method because teachers can use new vocabulary throughout the day and during a variety of activities. Teachers plan meaningful exposures to vocabulary (like using *compromise* or *cooperative* when helping children to resolve conflicts) to broaden children's general word knowledge or to reinforce words learned during read-alouds (using the words *reef* and *vine* while constructing art projects).

Multimedia presentations. Hearing new vocabulary in DVDs and multimedia presentations also supports young children's vocabulary learning (e.g., Rice & Woodsmall 1988; Dockrell, Braisby, & Best 2007). Electronic texts (e.g., Higgins & Hess 1999) and read-alouds on DVDs (Wang, Christ, & Chiu 2009) can be motivating and effective when they call for children to actively engage with the words. It is important to note that children learn words that represent familiar concepts through these media; however, they do not tend to learn the meanings of words representing unfamiliar concepts (Dockrell, Braisby, & Best 2007) unless teachers pair direct instruction with viewing activities (Neuman, Dwyer, & Neuman 2008).

Intentionally teach word meanings

Direct word-meaning instruction is an effective way to facilitate children's vocabulary development (e.g., Beck, McKeown, & Kucan 2002) especially for words that represent unfamiliar concepts (Kibby 1995). For this type of instruction, select words that are important for comprehension (Kibby 1995; Beck, McKeown, & Kucan 2002) and useful in children's everyday interactions (Beck, McKeown, & Kucan 2002). There are three main approaches to directly teaching young children word meanings: asking questions related to a particular vocabulary word, embedding definitions of vocabulary words when they occur naturally, and extending instruction to include opportunities for children to demonstrate their word-meaning understanding.

Eliciting-type questions. To evoke children's thinking about word meanings, teachers can ask them questions to elicit recognition of a vocabulary word (Senechal, Thomas, & Monker 1995; Senechal 1997; Walsh & Blewitt 2006)—"Where are the *cockatoos* in the illustration?" or, pointing to cockatoos in the illustration, "What are these called?" Using eliciting-type questions results in children's learning more word meanings than simply exposing them to words in context (Senechal, Thomas, & Monker 1995; Senechal 1997). Teachers can also ask questions that request information about the concept represented by the vocabulary word (Justice 2002), like, "Why would you need to be careful of a *reef*?"

Embedded definitions support children's word learning and lead to greater understanding of a word's meaning than do picture clues.

Embedded definitions. Teachers can also quickly explain word meanings when children encounter unfamiliar words. These explanations are called *embedded definitions,* because the explanation of the word's meaning is embedded in the natural context in which the word occurs. Ms. Allen provides an embedded definition for the word *reef* so that the children will understand why people would need to "know the way through the reef." She explains, "A reef is under the water, and is very sharp, so the boat needs to go around the reef so that it doesn't get caught in it." Embedded definitions support children's word learning and lead to greater understanding of a word's meaning than do picture clues (DeBaryshe & Whitehurst 1986) or exposure to a word through read-alouds (Biemiller & Boote 2006).

Extended instruction. When teachers want to help children develop a nuanced understanding of a word, they use a multistep approach often referred to as *extended instruction* (e.g., Beck, McKeown, & Kucan 2002; Juel et al. 2003; Coyne, McCoach, & Kapp 2007; Silverman 2007). Isabel Beck, Margaret McKeown, and Linda Kucan (2002) suggest implementing six steps after a read-aloud:

1. Contextualize the word as it appears in the story—Ms. Allen might ask the children to recall that in the story, people had to "know the way through the *reef.*"
2. Explain the word's meaning—she might remind the children that a *reef* grows from the ocean floor and is very sharp.
3. Ask the children to repeat the word aloud to create a phonological imprint (a memory of the word's sound).
4. Offer examples that extend beyond the story context—Ms. Allen might tell the children that they would need to be careful not to swim too near a *reef* to be sure that they would not get cut, and that the fish that swim and live near a *reef* need to be agile to get around its sharp edges.
5. Have children demonstrate word-meaning understanding by making a judgment, articulating an example, and so on—Ms. Allen might ask the children to decide whether they would like to sleep on a *reef,* have a *reef* in their bedroom, or see a *reef* in an aquarium.
6. Have the children restate the word to reinforce its phonological imprint.

Children learn more about word meanings from extended instruction than from embedded instruction or exposure alone (Silverman 2007).

Teach word-learning strategies

For young children to develop the mental tools to infer word meanings from context, they need to be taught how to do so. Use the following steps, over time, to support children in strategic word learning (Wang, Christ, & Chiu 2009).

1. During the first several read-alouds in which you plan to support children in inferring word meanings, use a "think-aloud" to model how to use clues and background knowledge to infer word meaning. For example, Ms. Allen may have thought aloud about the meaning of *cockatoos.* Perhaps she said to the children, "I know that birds squawk. If the cloud squawks, then the squawking may be coming from birds. Maybe the cloud is made up of birds. Since the author says that there is a cloud of cockatoos, the cockatoos must be birds." This shows the steps in her thinking

about the clues in the text (cockatoos form a squawking cloud) and her background knowledge (birds squawk).

2. Then, after you have modeled thinking about using clues in the text and background knowledge to infer word meanings several times, ask children questions to guide them through the same process. Perhaps Ms. Allen asked, "What do you think might squawk?" (to elicit background knowledge), "What are in the form of a cloud in the illustration?" (to connect background knowledge with clues from the text), and "So, what do you think cockatoos are?" (to garner a hypothesis about the meaning of *cockatoos*).

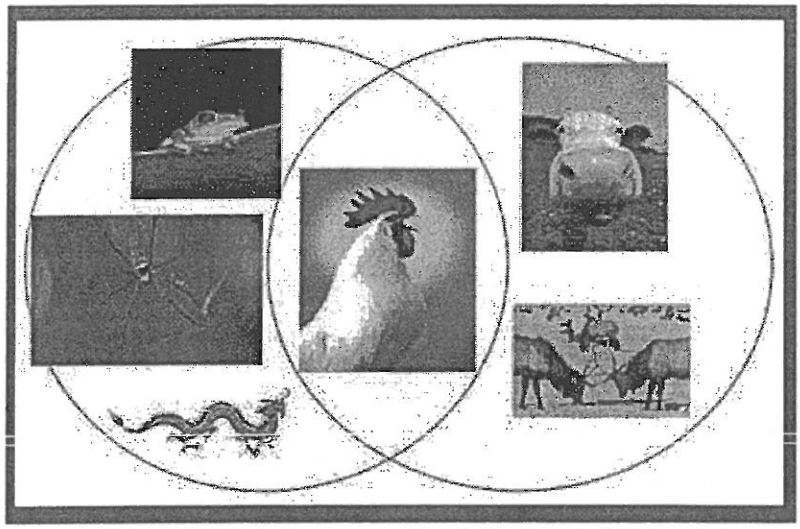
3. Next, after you have guided children many times to infer word meaning, ask them to infer word meanings independently, using background knowledge and the clues in the text.

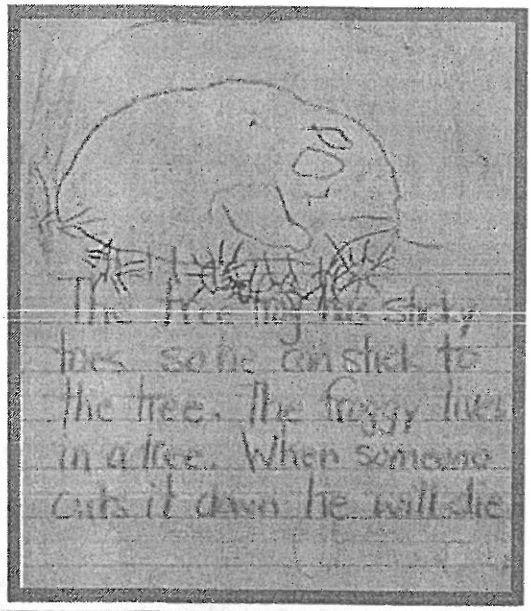
It is critical that the text have clues that suggest the word's meaning in order for this type of instruction to work. In *Where the Forest Meets the Sea,* the writing and the illustrations both provide clues as to what cockatoos are. The text reads, "When we arrive, cockatoos rise from the forest in a squawking cloud," and in the illustration, birds hover in the air like a cloud. Based on these clues, children can figure out that cockatoos are birds and that they live in the rain forest (the book's setting).

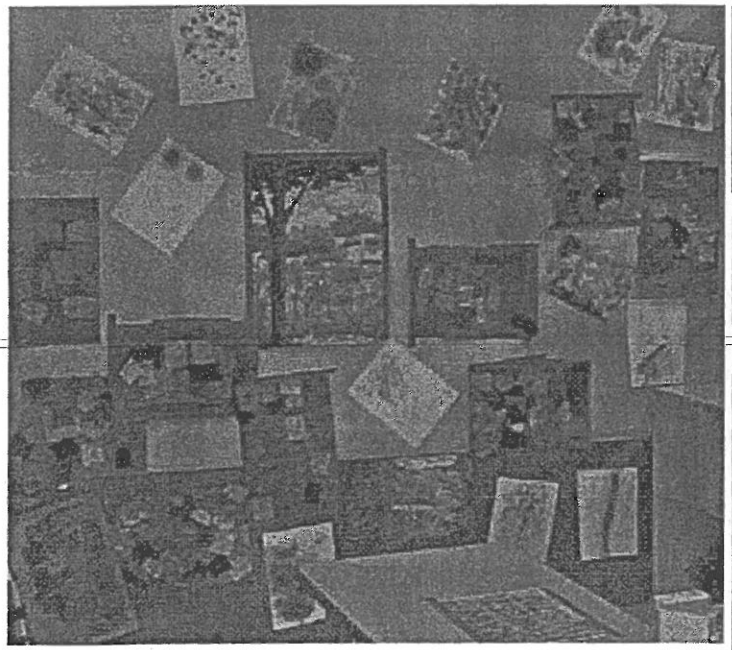
Offer opportunities to use newly learned words

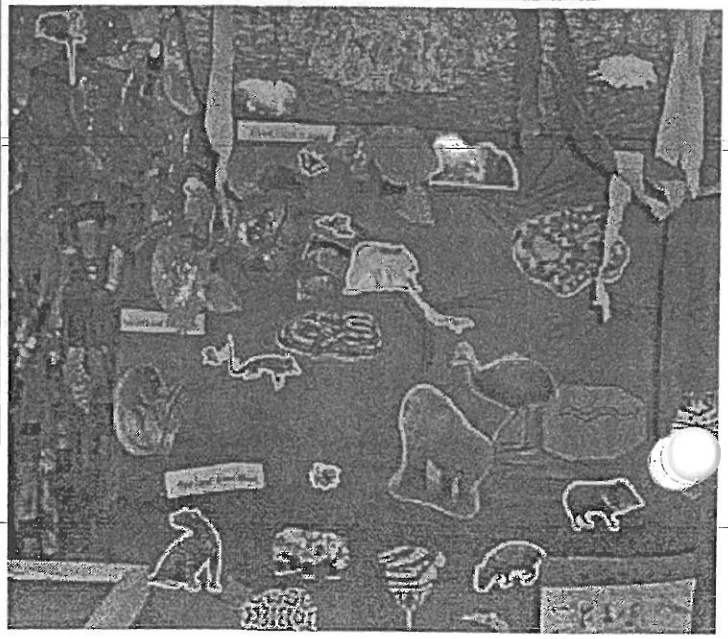
Providing opportunities for children to use newly learned words is a critical aspect of supporting word learning. Construct classroom activities in which children are likely to use newly learned words.

One such activity is *concept mapping,* as when children work in groups to organize pictures of animals in a Venn diagram (at left) to show which animals are carnivores, omnivores, or herbivores. This supports their learning and use









Multiple exposures to new words across classroom contexts (in a read-aloud, then in the art center, and so on) give children opportunities to acquire information about word meanings.

of new concept names (red-eyed tree frog), categories (carnivores, omnivores, herbivores), properties (plant eating, meat eating, plant and meat eating), and relatedness (herbivores and carnivores are opposites, and omnivores eat what both herbivores and carnivores eat) (Christ & Wang 2010a).

Other word-mapping activities include having children "read" or retell a story from a familiar book (Wasik & Bond 2001; Coyne, Simmons, & Kame'enui 2004; Schwanenflugel et al. 2005; Labbo, Love, & Ryan 2007; Leung 2008; Wang & Christ 2009; Christ & Wang 2010b); dictate stories based on knowledge acquired through a curriculum theme (Christ & Wang 2009); and engage in theme-related arts and crafts (Wasik & Bond 2001; Wang, Christ, & Chiu 2009) and sociodramatic play (for example, in a dramatic play center with a child-created rain forest backdrop [see p. 89], where children's pretend play with stuffed and plastic animals relates to the rain forest theme) (Wang, Christ, & Chiu 2009).

Conclusion

Using a variety of teaching methods to improve children's vocabularies helps to advance educational equity because a well-developed vocabulary correlates with greater reading comprehension and general academic success. Over time, and with emphasis on vocabulary learning as a critical aspect of literacy and conceptual development in their classroom, teachers will expose children to a vast number of new words. Multiple exposures to new words across classroom contexts (in a read-aloud, then in the art center, and so on) give children opportunities to acquire information about word meanings. Through teachers' own interest in words and their modeling of interest in and attention to words and to clues about word meanings, children can become active, motivated, and strategic word learners.

References

Alexander, P., S. Graham, & K. Harris. 1998. A perspective on strategy research: Progress and prospects. *Educational Psychology Review* 10 (2): 129–54.

Beals, D. 1997. Sources of support for learning words in conversation: Evidence from mealtimes. *Journal of Child Language* 24: 673–94.

Beck, I., M. McKeown, & L. Kucan. 2002. *Bringing words to life: Robust vocabulary instruction.* New York: Guilford.

Biemiller, A., & C. Boote. 2006. An effective method for building meaning vocabulary in primary grades. *Journal of Educational Psychology* 98 (1): 44–62.

Biemiller, A., & N. Slonim. 2001. Estimating root word vocabulary growth in normative and advantaged populations: Evidence for a common sequence of vocabulary acquisition. *Journal of Educational Psychology* 93: 498–520.

Blachowicz, C. L., J. Beyersdorfer., & P. Fisher. 2006. Vocabulary development and technology: Teaching and transformation. In *International handbook of literacy and technology,* eds. M. McKenna, L. D. Labbo, R. D. Kieffer, & D. Reinking, 341–48. Mahwah, NJ: Erlbaum.

Bloom, P. 2002. *How children learn the meaning of words.* Cambridge: MIT Press.

Brabham, E., & C. Lynch-Brown. 2002. Effects of teachers' reading-aloud styles on vocabulary acquisition and comprehension of students in the early elementary grades. *Journal of Educational Psychology* 94 (3): 465–73.

Carey, S. 1978. The child as word learner. In *Linguistic theory and psychological reality,* eds. M. Halle, J. Bresnan, & G. Miller, 264–93. Cambridge, MA: MIT Press.

Chall, J., V. Jacobs, & L. Baldwin. 1990. *The reading crisis: Why poor children fall behind.* Cambridge, MA: Harvard University Press.

Christ, T., & X.C. Wang. 2009. Using story dictation to support preschoolers' application of meaning vocabulary. Presentation at the annual meeting of the American Educational Research Association, in San Diego, California.

Christ, T., & X.C. Wang. 2010a. Exploring preschoolers' use of semantic organizers to support meaning vocabulary development. Roundtable presented at the annual meeting of the American Educational Research Association, Denver, Colorado.

Christ, T., & X.C. Wang. 2010b. Exploring buddy reading as a context for young children's application of new meaning vocabulary. Poster presented at the annual meeting of the American Educational Research Association, Denver, Colorado.

Coyne, M., B. McCoach, & S. Kapp. 2007. Vocabulary intervention for kindergarten students: Comparing extended instruction to embedded instruction and incidental exposure. *Learning Disability Quarterly* 3: 74–88.

Coyne, M., D. Simmons, & E. Kame'enui. 2004. Vocabulary instruction for young children at risk of experiencing reading difficulties. In *Vocabulary instruction: Research to practice,* eds. J. Bauman & E. Kame'enui, 41–58. New York: Guilford.

DeBaryshe, B., & G. Whitehurst. 1986. Intraverbal acquisition of semantic concepts by preschoolers. *Journal of Experimental Child Psychology* 42: 169–86.

De Temple, J.M., & C.E. Snow. 2003. Learning words from books. In *On reading storybooks to children: Parents and teachers,* eds. A.V. Kleech, S.A. Stahl, & E.B. Bauer, 16–36. Mahwah, NJ: Erlbaum.

Dockrell, J., N. Braisby, & R, Best. 2007. Children's acquisition of science terms: Simple exposure is insufficient. *Learning and Instruction* 17: 577–94.

Elley, W. 1989. Vocabulary acquisition from listening to stories. *Reading Research Quarterly* 4: 174–87.

Graves, M. 2000. A vocabulary program to complement and bolster a middle-grade comprehension program. In *Reading for meaning: Fostering comprehension in the middle grades,* eds. B. Taylor, M. Graves, & P. van den Broek, 116–35. Newark, DE: International Reading Association.

Hart, B., & T. Risley. 1995. *Meaningful differences in the everyday experience of young children.* Baltimore: Brookes.

Hayes, D., & M. Ahrens. 1988. Vocabulary simplification for children: A special case of "motherese"? *Journal of Child Language* 15: 395–410.

Higgins, N., & L. Hess. 1999. Using electronic books to promote vocabulary development. *Journal of Research in Computing Education* 31 (4): 425–30.

Juel, C., G. Biancarosa, D. Coker, & R. Deffes. 2003. Walking with Rosie: A cautionary tale of early reading instruction. *Educational Leadership* 60 (7): 12–18.

Justice, L. 2002. Word exposure conditions and preschoolers' novel word learning during shared storybook reading. *Reading Psychology* 23: 87–106.

Kibby, M. 1995. The organization and teaching of things and the words that signify them. *Journal of Adolescent and Adult Literacy* 39 (3): 208–23.

Labbo, L., M. Love, & T. Ryan. 2007. A vocabulary flood: Making words "sticky" with computer-response activities. *Reading Teacher* 60 (6): 582–88.

Leung, C. 2008. Preschoolers' acquisition of scientific vocabulary through repeated read-aloud events, retellings, and hands-on science activities. *Reading Psychology* 29: 165–93.

McKeown, M. 1985. The acquisition of word meaning from context by children of high and low ability. *Reading Research Quarterly* 20 (4): 482–96.

Miller, G., & P. Gildea. 1987. How children learn words. *Scientific American* 257: 94–99.

Nagy, W., & P. Herman. 1987. Breadth and depth of vocabulary knowledge: implications for acquisition and instruction. In *The nature of vocabulary acquisition,* eds. M. McKeown & M. Curtis, 37–51. Hillsdale, NJ: Erlbaum.

Nassaji, H. 2006. The relationship between depth of vocabulary knowledge and L2 learners' lexical inferencing strategy use and success. *The Modern Language Journal* 90 (3): 387–401.

Neuman, S., J. Dwyer, & E. Neuman. 2008. *Developing vocabulary and conceptual knowledge for low-income preschoolers: An intervention study.* Ann Arbor, MI: University of Michigan.

Rice, M. & L. Woodsmall. 1988. Lessons from television: Children's word learning when viewing. *Child Development* 59 (2): 420–29.

Robbins, C., & L. Ehri. 1994. Reading storybooks to kindergartners helps them learn new vocabulary words. *Journal of Educational Psychology* 86 (1): 54–64.

Schwanenflugel, P., C. Hamilton, B. Bradley, H. Ruston, & M. Restrepo. 2005. Classroom practices for vocabulary enhancement in prekindergarten: Lessons from PAVEd for success. In *Teaching and learning vocabulary: Bringing research to practice,* eds. E. Hiebert & M. Kamil, 155–77. Mahwah, NJ: Erlbaum.

Senechal, M. 1997. The differential effect of storybook reading on preschoolers' acquisition of expressive and receptive vocabulary. *Journal of Child Language* 24: 123–38.

Senechal, M., E. Thomas, & J. Monker. 1995. Individual differences in 4-year-old children's acquisition of vocabulary during storybook reading. *Journal of Educational Psychology* 87 (2): 218–29.

Siegler, R. S. 2005. Children's learning. *American Psychologist* 60: 769–78.

Silverman, R. 2007. A comparison of three methods of vocabulary instruction during read-alouds in kindergarten. *The Elementary School Journal* 108 (2): 97–113.

Stahl, S., & K. Stahl. 2004. Word wizards all! In *Vocabulary instruction: Research to practice,* eds. J. Bauman & E. Kame'enui, 59–78. New York: Guilford.

Trelease, J. 2006. *The read-aloud handbook.* New York: Penguin Books.

Walsh, B., & P. Blewitt. 2006. The effect of questioning style during storybook reading on novel vocabulary acquisition of preschoolers. *Early Childhood Education Journal* 33 (4): 273–78.

Wang, X.C., & T. Christ. 2009. Budding buddy "reading": A case study of a Head Start class. Paper presented at the annual meeting of the American Educational Research Association, in San Diego, California.

Wang, X.C., T. Christ, & M. Chiu. 2009. Exploring a model for meaning vocabulary instruction in early childhood classrooms: A formative experiment. Paper presented at the annual meeting of the National Reading Conference, in Albuquerque, New Mexico.

Wasik, B., & M. Bond. 2001. Beyond the pages of a book: Interactive book readings and language development in preschool classrooms. *Journal of Educational Psychology* 93 (2): 243–50.