

Small Kids, Big Words

Research-based strategies for building vocabulary from preK to grade 3
by LAURA PAPPANO

Morning meeting begins with—no surprise—the weather. But when preschool teacher Radha Hernandez describes the drenching winter downpour, she doesn't reach for a rainy day symbol to stick on a calendar. She reaches for words.

"I was curled up under the covers. I was cozy, toasty warm and outside I heard an am-a-a-zing thing," says Hernandez, a founding teacher at Lee Academy, a pilot school in Boston serving children from age three to third grade. "Thunder! Thunder! I heard thunder outside my window. It was a loud, crashing, booming sound."

The ten children clustered in a horseshoe on the rug (two others will arrive later) perk up. Timmy insists he didn't hear it. No one believes him, but he stands his verbal ground. "I didn't want to hear it and so that is why I didn't listen," he says.

Molly, who's four, adds, "I guess he was ignoring it."

It is, of course, always cute when small kids use big words. But a growing body of research and classroom practice show that building a sophisticated vocabulary at an early age is also key to raising reading success—and narrowing the achievement gap. At schools like Lee Academy, teachers are overcoming the age-old habit of speaking to young children in simplified language and instead deliberately weaving higher-level word choices into preschool and primary grade classrooms. Whether it's a discussion at morning meeting, informal talk at the block area, or a selection of read-aloud books, teachers are exposing younger children to language that, in many cases, exceeds the vocabulary level of a typical conversation between college graduates.

Since researchers Todd Risley and Betty Hart articulated the power of early communication at home on children's future literacy in their landmark 1995 book, *Meaningful Differences in the Everyday Experiences of Young American Children*, there has been a shift in thinking about how teachers should use words in the earliest years. Instead of sticking with simple words that children can easily grasp (and maybe sound out), researchers say that teachers should help students stretch their capabilities to build a vocabulary that can serve as a reservoir for conceptual understanding. These words are being highlighted in new curricula and teaching practices aimed at students in preK through third grade and beyond (see sidebar "Vocabulary Development from PreK-3"). **Vocabulary Development from PreK-3**

Daniel Pallante, president of the Ohio Educational Development Center and founder of the Collaborative Language and Literacy Instruction Project (CLLIP), whose program has been used in Ohio schools for the past decade, helps teachers teach high-level words to children at different ages. Here are some of his guidelines for early vocabulary building:

Preschool: Teachers should pick out four to five Tier 2 words a week that relate to "big-time" concepts like "ocean," which not only connect to children's experiences but can be extended to touch on larger concepts and related words.

Kindergarten: As children get into word reading, it's valuable to talk about the structure of words: how words—like block towers—can be taken apart or built from smaller pieces, and how that changes what they mean. He suggests concentrating on four to five words a week.

First grade: Children are ready to amplify their vocabulary learning by drawing inferences around six to seven target words each week.

Second grade: Students are ready to develop dictionary skills around seven to ten target words a week to begin to investigate multiple meanings.

Third grade: Students may target eight to ten new words weekly, extending their dictionary skills to think about which of a target word's multiple meanings may be most relevant for a particular discussion.

For all students preK-3: Teachers should use interactive strategies to engage students. For example, if a story uses the word "risk," a teacher might say, "I am going to give you some scenarios and if I describe one that is taking a risk, say, 'Oh no!'" A teacher might then describe going swimming without a lifeguard (risky) and checking out a library book (not risky). Teachers can also send students home to find all the places a certain word turns up or make versions of Jeopardy to play in the classroom. "We have teachers who tell us they



won't read a book any more without doing these interactive strategies," he says. "They say, 'Otherwise it's not fun for me or for the kids.'"

"When you hear adults talking to children in preschool, they are often using very low-level, common words as opposed to rarer and more high-level words," says Judy Schickedanz, professor at the Boston University School of Education, whose Opening the World of Learning (OWL) curriculum is used at Lee Academy. "If we want to close the achievement gap, we need kids to have a more technical vocabulary." Schickedanz believes exposing children to specialized words related to specific fields gives them access to sophisticated ideas and jumpstarts higher-level learning.

Unlike math, in which some skills (like addition and subtraction) must be learned before a child can master others (multiplication and division), most researchers agree that it is not necessary for children to learn simple words first. Nor does direct vocabulary instruction need to wait until children have learned to read well enough to decode the words they are learning. In fact, researchers say teaching "rich"—or rare—words orally by explaining them and using them in different contexts aids children later when they encounter those words in print.

Researchers disagree somewhat about *which* words kids should learn, and precisely how many words they can learn at once. Some researchers observe that word learning tends to follow certain patterns, and argue that teachers should target vocabulary words accordingly. Others emphasize the importance of connecting words to content. However, all agree that key to helping disadvantaged students grasp the "academic" language considered essential to school success is to give them what privileged students have in their home environments: High-level talk with rich vocabulary they can absorb and make their own.

Andrew Biemiller, professor emeritus at the University of Toronto and author of the forthcoming *Words Worth Teaching*, says by the end of second grade, an average student knows 6,000 root words. Children with weak vocabularies know about 4,000 root words, while children in the top 25 percent of vocabulary acquisition know 8,000 root words—*twice* as many as the weakest students. This is why he says students must be taught high-level words earlier. "Everyone says, 'Well, when they learn to read they will pick up the vocabulary they need,'" says Biemiller. Unfortunately, he says, students with weak vocabularies "are already years behind when that happens."

Focus on Tier 2 Words

Teachers of preschool, kindergarten, or even primary grade students may feel odd punctuating their conversations with advanced words like "reluctant" or "commotion," but Schickedanz insists that in word learning "there isn't a developmental unfolding." While very young children don't use vocabulary as precisely as older ones (they may use "run" where an older child uses "dashed" or "raced" or "scampered"), there is no requirement to learn certain words before others, she says.

"Words are not related hierarchically. You can know 'saturated' before you know 'soak,'" says Isabel Beck, professor emerita at the University of Pittsburgh and author of *Creating Robust Vocabularies: Frequently Asked Questions and Extended Examples*.

But which words to teach? The most widely accepted framework for vocabulary teaching was developed by Beck and her colleagues Margaret McKeown and Linda Kucan. In their book *Bringing Words to Life: Robust Vocabulary Instruction*, they label as Tier 1 words like "farm" and "zoo," which children acquire on their own by listening to adults, peers, and other sources of language in the environment. These words, they say, don't need to be taught.

By contrast, Tier 3 words are technical words connected to a particular field, such as medicine or engineering. Experts disagree about the value of teaching young children these words. Some (like Schickedanz) say they are key to unlocking information, while others argue that students will acquire them when (and if) they study that discipline.

There is little disagreement, however, that the long list of words in the vast middle—what Beck and colleagues call Tier 2 words—is where teachers should put the most energy (see table "Tiered Words").

Tiered Words

By first or second grade, students have acquired many vocabulary words on their own. These words, called Tier 1 words, don't need to be taught. By contrast, higher-level words (Tier 2 and Tier 3) must be explicitly taught to students.

| Tier 1 | Tier 2 | Tier 3 |
|--|---|--|
| <i>Words children pick up on their own without instruction</i> | <i>Words important to academic success that must be explicitly taught</i> | <i>Words more technical in nature associated with special fields</i> |
| school | avoid | temperature |
| mother | vanished | hibernate |
| tiny | evade | migrate |
| huge | exhausted | saddle |

| | | |
|-----------|-------------|--------------|
| walk | longed | magnet |
| unhappy | urgent | prescription |
| laugh | jubilant | python |
| beautiful | crafty | wildflower |
| animals | gratitude | acrobat |
| birthday | resemble | wheat |
| clock | coincidence | peninsula |
| baby | absurd | isotope |

Source: Isabel Beck

Some researchers have developed lists of target words within this group. Biemiller’s list, for instance, is based on typical patterns of word acquisition. Others, however, advise culling Tier 2 words from actual texts, curriculum frameworks, and even picture books to expose children to the academic language they will need to be successful in their particular school’s curriculum. One teacher, for example, reads through books and uses Post-Its to mark sophisticated words that she thinks her particular students should know.

One can teach Tier 2 words to children of any age, says Beck, as long as teachers keep two things in mind: First, the child must have control of the underlying concept—knowing about wetness to understand “saturate” and “drench.” Second, she says, it’s essential “that you can explain [the new word] in words that are not harder than the target word.”

One reason it is so critical to teach children Tier 2 words, says Nonie Lesaux, associate professor at the Harvard Graduate School of Education, is that when children begin reading independently at age 4 or 5, they need to understand 95 percent of the words in a text in order to be able to make sense of it.

“Students need to really know the words, not just have seen them before,” says Lesaux, who estimates children need 13 to 15 exposures to a word in different contexts and at different times to own a word’s meaning. “A lot of kids have a really shallow grasp of a lot of words. It’s not that they don’t have language, but their depth of word knowledge is too limited to be good readers. You need a good understanding of a word so when you come across it in context, you can conjure up some idea about that word. When [students] have one very narrow definition of a word, that just doesn’t give them enough traction when they are reading independently.”

Linking Vocabulary to Content

At Lee Academy, where 67.1 percent of the students are categorized as low income by the state Department of Education, teachers focus on words related to specific content and use a four-step process for teaching them. Using the OWL curriculum, says reading support teacher Heather Nord, preschool teachers choose a theme such as “wind and water.” Using six books related to the theme, they target 60 key words during a four-week unit.

Teachers read each book four times, using a different approach each time. The first time, Nord says, teachers verbally highlight targeted vocabulary words and post them on cards. The second time, they reconstruct the story, with children helping to retell. The third time, the teacher leaves out words, which children fill in orally. The fourth time, children act out the story. The aim? Experience the words, the concepts, the story itself.

Helping children grasp complicated words—even if they cannot recognize the same words in print—makes perfect sense to Lee preschool teacher Hernandez. “These children are not reading independently,” she says of her classroom of four- and five-year-olds, “but their ability to capture the meaning of a story highly depends on understanding what the words mean.”

Diane August, senior research scientist at the Center for Applied Linguistics, says that helping students build high-level vocabularies to access content is particularly important for English Language learners (ELLs).

August is conducting a randomized trial with K–3 students in seven schools in Brownsville, Texas, evaluating the impact of teachers’ efforts to increase students’ oral language proficiency and vocabulary. Ninety-eight percent of the students speak a language other than English at home. August has observed that without specific vocabulary instruction, many ELLs can’t understand their textbooks. “What drives what I am doing is giving kids access to content,” she says.

For teachers participating in her study, August selects vocabulary from student textbooks in math, science, and social studies. “It starts with the district curriculum—what words do they need to know, what concepts do they need to understand?” says August. She then refines the list by comparing high-frequency words in the textbooks with the *Living Word Vocabulary*, a national inventory of 43,000 word meanings showing the percentage of students who know the word at various grade levels.

The point, she says, is not just for students to memorize or define a word, but to have them use the word. To explain “erosion,” for example, students look at picture cards showing different types of erosion (water and wind), talk about what it means in Spanish, say

the word aloud in English several times, describe what it means in English, and perhaps turn and talk with a partner about how a certain photo illustrates erosion.

This approach—in which students discuss words, speak them aloud, demonstrate their meanings, and interact with one another around the word—is common across vocabulary-centered curricula in classrooms from preK to third grade.

Reaping Results in Appalachia

While schools across the country are beginning to embrace vocabulary-centered instruction, in one rural Appalachian community in Ohio this approach is already reshaping student test results. For the past five years teachers at Millersburg Elementary School in West Holmes, a community in which only half of the adults have completed high school, have been participating in the Collaborative Language and Literacy Instruction Project created by Daniel Pallante of the Ohio Educational Development Center.

Third grade teacher Kelly Collett, for example, who has 27 students and no aide, talks boldly about Tier 2 words, which she covers at the rate of 12–16 per week. She urges students to be “word finders,” keeps a “word wall,” and gives silent cheers when a child uncovers a great word. When she reads aloud to her class, she pauses mid-sentence to talk about word meanings and—as Lee Academy preschool teachers do—gets children physically involved, telling them to give a thumbs up if they hear a target vocabulary word.

Acquiring rich words with complex meanings has not always been considered important in West Holmes. “Parents are more concerned here with, ‘Can my child read?’” says Collett. But, she points out, background knowledge about rich words is critical to reading. “I tell them, ‘Your vocabulary—the words you speak—makes you smart and makes you sound smart.’”

The approach is working. Third-grade passing rates on the state reading exam rose from 77 percent in 2003–2004 to nearly 87 percent in 2006–2007. As an indicator of the challenge the district faced before the program began, in 1998 (before third graders were tested) only about half of fourth graders met state reading standards, compared with 85.3 percent last year.

“We’re just seeing tremendous results,” says Superintendent Joe Parish, noting that in addition to test scores he sees more engaged teachers. Before, he says, “we heard teachers saying, ‘There is a certain population of my students I have never been able to reach.’ Now they see the results of what they are doing. Our teachers are driven by that.”

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This article is part of an ongoing series on the education of children from preK through grade 3, made possible through the support of the [Foundation for Child Development](#). For comments on this article, read [Catherine E. Snow](#) on the point of vocabulary learning; [Michael L. Kamil](#) on using different vocabulary strategies at different levels; and [David K. Dickinson](#) on changing our conceptions of the intellectual capacities of young children.



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I. Beck, M. McKeown, and L. Kucan. *Bringing Words to Life: Robust Vocabulary Instruction*. New York: Guilford Press, 2001.

I. Beck, M. McKeown, and L. Kucan. *Creating Robust Vocabularies: Frequently Asked Questions and Extended Examples*. New York: Guilford Press, 2008.

Collaborative Language and Literacy Instruction Project. www.gse.harvard.edu/~pild/cclip/

B. Hart and T. Risley. *Meaningful Differences in the Everyday Experiences of Young American Children*. Baltimore: Brookes Publishing, 1995.