WHAT IS MOST IMPORTANT TO KNOW ABOUT VOCABULARY?

Linda Kucan

FACT: There is a tremendous gap between students who have large vocabulary repertoires when they come to school and those who do not (Hart & Risley, 1995).

FACT: That gap continues to grow as students advance through school (Walberg & Tsai, 1983).

FACT: Although research-based approaches for vocabulary instruction are available, attention to learning word meanings for many students tends to be superficial and brief (Blachowicz, Fisher, Ogle, & Watts-Taffe, 2006; Scott, Jamieson-Noel, & Asselin, 2003).

The purpose of this article is to support teachers in addressing the challenges posed by these facts. Specifically, this article presents a perspective for thinking about vocabulary and how to teach it.

The Lexical Quality Hypothesis

In the Lexical Quality Hypothesis, Perfetti (2007) provided a useful perspective on vocabulary development by specifying the word features that characterize high-quality entries in a reader's mental dictionary, or lexicon. Consider the features of the word *sagacious*. A sagacious person is someone who uses good judgment, someone who is wise. One feature of a high-quality lexical entry for *sagacious* is its meaning, or *semantic representation*. Another feature is its pronunciation, or *phonological representation* (sə-'gā-shəs). Another aspect of a high-quality representation is its *orthographic*

Linda Kucan is an associate professor at the University of Pittsburgh, Pennsylvania, USA; e-mail LKucan@pitt.edu.

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representation, or spelling. Linking the pronunciation of a word to its spelling is what happens during reading. Other important attributes of a word relate to its morphology and syntax. The word *sagacious* has recognizable morphemes, or units of meaning, including the suffix *–ous*, which means "full of," or " having." A sagacious person has sagacity or good judgment or is full of wisdom. The word *sagacious* also has a specific syntax, or function in a sentence, and that function is related to its form. For example, *sagacious* is the adjective form of the word *sagacity*, which is a noun. According to Perfetti, it is the interconnectedness of semantics, phonology, orthography, morphology, and syntax that allows readers to rapidly, precisely, and flexibly determine the meaning of a word in a particular context. This article deals with each of the preceding features in detail, but first let us turn to the landscape or context for vocabulary development in schools.

The Verbal Environment

The classrooms of teachers who support the vocabulary development of their students are *energized verbal environments*—environments in which words are not only noticed and appreciated, but also savored and celebrated. Nurturing word consciousness (Graves & Watts-Taffe, 2002; Scott & Nagy, 2004) or word awareness (Beck, McKeown, & Kucan, 2002, 2008) in the classroom involves a deliberate commitment to developing a curiosity about words and expending the effort to discover what words mean and how words work.

A recent article by Lane and Allen (2010) offered an account of how a kindergarten teacher mindfully selected words to enrich her students' mental lexicons. For example, the daily weather watch activity became an occasion to learn about precise words such as *brisk* and *frigid* to include in weather reports. Such thoughtful attention to word choice creates an oral verbal environment in which students are exposed to sophisticated vocabulary and are supported in contributing to it.

Teachers can also deliberately enhance the verbal environment in their classrooms by choosing books and poems to read aloud that emphasize the impact of surprisingly fresh and imaginative language to describe and explain. For example, in *The Tale of Despereaux* (DiCamillo, 2003), the narrator introduces the word *perfidy* and provides a strong context for illustrating its meaning. Early in the book, the narrator describes a scene in which the young mouse Despereaux is brought before the Mouse Council because he has been seen consorting with Princess Pea, a human being. Such behavior constitutes a criminal act for mice. Members of the council, which includes his father, Lester, must vote on Despereaux's fate. All those in favor of sending Despereaux to the dungeon say "aye," including Lester. The narrator says: "Reader, can you imagine your own father not voting against your being sent to a dungeon full of rats?...At least Lester had the decency to weep at his act of perfidy. Reader, do you know what 'perfidy' means? I have a feeling you do, based on the little scene that has just unfolded here. But you should look up the word in your dictionary, just be to be sure" (pp. 44–45).

Dictionaries are essential resources in a classroom with a rich lexical ambiance. The entry for *perfidy* in the online Collins COBUILD Dictionary includes an audio link for pronouncing the word, as well as this student-friendly definition: "Perfidy is the act of betraying someone or behaving very badly towards someone." Dictionaries can be useful, but looking up words in a dictionary will not support students in developing their own rich mental lexicons. For that, students need vocabulary instruction. According to the Lexical Quality Hypothesis (Perfetti, 2007), effective vocabulary instruction targets not only what words mean, but also how words work.

How Words Work

A typical school day presents multiple opportunities for students to learn about how words work, or the important features of words. Those features include phonology, orthography, morphology,

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and syntax. Instruction related to these features has been labeled as phonics, spelling, word study, structural analysis, grammar, oral vocabulary, story vocabulary, and just plain vocabulary. Despite these multiple labels for instruction, there is a shared goal of supporting students in developing their vocabulary knowledge.

Phonology

For all students, reinforcing the pronunciation of words is a critical aspect of vocabulary learning. No one will use a word that they can't say. For young children, learning about how words work begins with cues to attend to the sounds of words. Teachers provide these cues by orchestrating children's participation in activities such as listening to and chiming in on rhymes and songs and clapping the syllables in long words and short words. Mother Goose and Dr. Seuss are magnificent wordsmiths who play with the sounds of words and engage children in doing the same. In the process, children begin to understand how to manipulate sounds to transform one word into another—*Jill* into *hill*, *lamp* into *zamp*. These basic notions play an important role in vocabulary development by supporting children's phonological representations of words.

Orthography

Learning to read involves learning how the sounds of spoken words (phonology) relate to the way they are written (orthography). Reading/language arts publishers address orthography by including spelling resources as part of their program components. In the early grades, spelling words are selected to relate to the phonics that is being taught. For example, to reinforce the short *e* vowel sound for first graders and how that sound is represented in print, children learn how to spell words such as *set*, *sent*, *ten*, and *get* (Beck, Farr, & Strickland, 2009). They also engage in lessons in which letter cards are used to build words and then those words are changed into new words by substituting other letter cards. Adding just one letter changes *set* to *sent*. Substituting the letter *t* for the letter *s* transforms *sent* into *tent*. As students manipulate the letter changes, they begin to understand that they need to attend to all the letters in a word to read and spell it.

In her article about spelling exceptions, Johnston (2000) emphasized the value of engaging upper elementary students in sorting words to reveal spelling patterns. For example, consider these sets of words:

ledge	leg	cage
badge	brag	huge
judge	frog	stage
pledge	flag	page

What might students notice about each set related to the hard or soft sound of the letter *g* and the relationship of long and short vowel sounds to words that end in *dge* and *ge*?

Spelling instruction directs students' attention to the orthographic features of words; it can also support students' development of knowledge about morphology and syntax.

Morphology

Typical approaches for drawing students' attention to morphemes, or units of meaning in words, involve teaching about prefixes and suffixes or Greek and Latin roots. For example, in a typical lesson, students learn about the meaning of the suffixes such as *–er*, *–or*, and *–ist* as "someone who" and analyze the words *dancer*, *actor*, *inventor*, *investigator*, *naturalist*, and *dentist* as exemplars of the role of suffixes in words. Another lesson might focus on word roots such as *spect*, meaning "to look at," in words such as *inspect*, *inspector*, *perspective*, *retrospective*, and *spectacular* (Cooper & Pikulski, 2006).

Support for developing students' morphological knowledge is also provided in traditional language arts or grammar instruction related to inflectional endings and how those endings function to indicate plurals for nouns (*girl/girls*, *lunch/lunches*), tenses for verbs (*switch/switching/switches/switched*, *try/trying/tries/tried*), and degrees of comparison for adjectives (*calm/calmer/calmest*, *sunny/sunnier/sunniest*).

The interrelationship of phonology, orthography, and semantics is made memorable in lessons related to homophones (*coarse/course*, *hear/here*) and homographs (*bass*—fish and

bass—guitar; *minute*—time and *minute*—tiny; Afflerbach et al., 2011).

Syntax

Instruction can also draw students' attention to the syntactic forms of words. For example, in the upper elementary grades, learning to spell can involve learning about verb and noun forms of words, such as *inspire/inspiration*, *consult/consultation*, *illustrate/illustration* (August et al., 2011). The purpose of such lessons is not to have students identify parts of speech. Rather, it is to emphasize the forms of words that are often associated with specific parts of speech. For example, Kieffer and Lesaux (2007) suggested that students complete charts to generate the various syntactic forms of word and to use those forms in sentences to demonstrate how they function, such as in the following example:

noun	adjective	verb	adverb
strategy	strategic	strategize	strategically

What Words Mean

All of the work that students do related to the phonology, orthography, morphology, and syntax of words contribute to their knowledge of word meanings, but the foundation for high-quality lexical representations is built by engaging students in carefully designed instructional sequences that focus directly on word meanings. Those sequences begin with deliberate attention to selecting words to teach.

Choosing Words to Teach

"Which words should a teacher teach?" That question is the beginning of a chapter on word selection by Nagy and Hiebert (2011, p. 388). There are so many kinds of words to consider: high-frequency words, words that have important structural features, words that are needed to comprehend specific texts, content-specific terms. There is also the problem of the source for vocabulary selection. Because texts for beginning readers are designed to support their developing decoding skills, they offer limited opportunities to expand children's vocabulary knowledge. The textbooks for upper elementary students include reading/language arts, social studies, science, and mathematics and present multiple lists of words that compete for instructional attention. How can teachers decide which words to teach when there are so many to choose from?

Beck and McKeown (1985) devised a system for identifying words for rich vocabulary instruction, instruction designed to support students in building high-quality lexical representations of words. The system sorts words into three tiers or levels. Tier 1 words are those that are easily explained and understood, such as *sidewalk* or *cereal*. Tier 3 words are those that are domain specific, such as *embargo* or *photosynthesis*. Such words are specific to the domains of social studies and science, respectively, and refer to concepts that require explanations.

Tier 2 words are those words that students will likely encounter in many texts but are unlikely to be exposed to in everyday contexts. They are words that are precise, interesting, and sophisticated; words that mature language users include in their conversation; words that authors include in their stories and articles.

It is important to acknowledge that there is no Tier 2 word list to consult, and there is no grade-level designation for a Tier 2 word. In work done by Beck and McKeown (2007), children in kindergarten learned such Tier 2 words as *appropriate*, *commotion*, *concentrate*, *envious*, *forlorn*, and *timid*. Children in grade 1 learned such Tier 2 words as *anxious*, *evaded*, *leisurely*, *prominent*, and *savoring*. All of these words would be appropriate for students in grades 2 through 8 to learn as well.

The following guidelines can be useful for evaluating candidates for Tier 2 words:

- Students do not ordinarily use the word or hear the word used in daily language. The word would most often be encountered in books; for example, *timid*.
- Students have knowledge or experience that would help them to understand the word. For example, knowing what it means to be fearful or shy would help students grasp the meaning of *timid*.
- The word frequently appears in texts across a variety of contents areas.
- The word is useful or important for comprehending and writing about important ideas in a selection.
- The word can be worked with in a variety of ways so that students can build rich representations of them and of their connections to other words. *Timid* can be compared and

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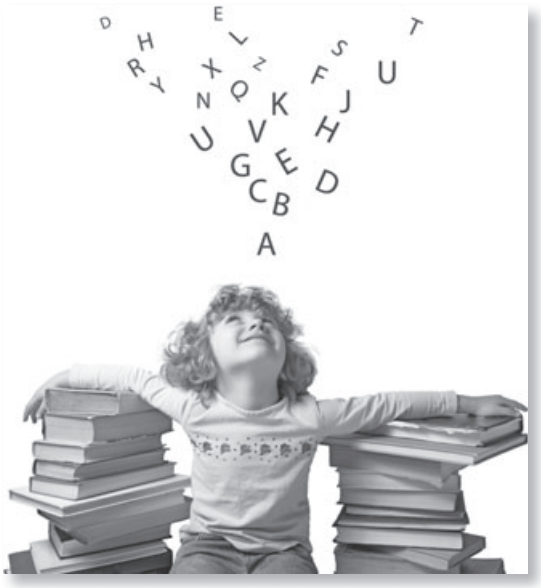

contrasted with words such as *self-confident* and *valiant*. It can be used to describe behaviors or actions of humans or animals or to portray reactions or responses to situations.

Given the prior criteria, try to select eight of the following words from *When Marian Sang* (Ryan, 2002) that you think are particularly useful Tier 2 words: *recital, libretto, duet, affection, advantage, tragedy, application, prejudice, unwavering, opera, accompanist, humiliations, endured, awe, opulent, audition, restrictions, trepidation, encores, resigned, momentous, debut.*

I chose *prejudice, unwavering, humiliations, endured, dignity, awe, restrictions,* and *trepidation*. These are words that are related to important ideas in the story and that can be used for reading and writing about those ideas. Marian had to **endure** many **humiliations** and **restrictions** because of **prejudice.** She felt the **trepidation** that comes with taking great risks. Yet she maintained her **dignity** and **unwavering** desire to sing and evoked the **awe** of her audiences. Students will encounter these words in a variety of texts, and, as you will see, the words lend themselves to meaningful instructional activities that support their ability to construct high-quality mental representations.

Many of the remaining words are potential Tier 2 or Tier 3 candidates. I would include the words *recital, libretto, duet, opera, accompanist, encores,* and *debut,* which are related to musical performance, in the Tier 3 category. There are other words in the grouping that are Tier 2 words. Selecting one over another depends on what teachers discern to be the "traction" or "mileage" that specific words provide. Which words will students likely encounter in their reading? Which provide opportunities for building connections to other words? The answers to these questions must be determined based on what teachers know about their students and about the opportunities and experiences those students have had.

An answer to the question "Where can teachers find Tier 2 words?" is more easily provided. As the word list from *When Marian Sang* demonstrates, trade books are the optimal source for the sophisticated vocabulary that constitutes words in the Tier 2 category: trade books that teachers read aloud to young children and trade books and books that students read independently. After selecting the words to teach, it is time to design the instructional sequence.

Instructional Sequence for Teaching Word Meanings

The following instructional sequence is one that can be used with students in any grade. It consists of a thoughtful introduction to a set of words, interesting interactions with the words, and assessments of students' knowledge of the words. The ideas are based on work I have done with my colleagues Isabel Beck and Margaret McKeown (Beck, McKeown, & Kucan, 2002, 2008).

Planning for a vocabulary lesson sequence involves the following:

1. Preparing student-friendly explanations for the words; that is, consulting dictionaries (e.g., Sinclair et al., 2005) and crafting an explanation of a word's meaning that makes sense to students
2. Designing meaningful activities for engaging students in using the words in a variety of contexts
3. Developing assessments that gauge students' depth of knowledge about the words

Introduction for Unwavering

The following steps are helpful for beginning a vocabulary lesson on the word *unwavering*:

"The instructional sequence consists of a thoughtful introduction to words, interesting interactions with the words, and assessments of students' knowledge of the words."

1. Provide a context for the word (semantics): In the story, Marian's mother had an unwavering belief that Marian would be able to find the training she needed even though she was not accepted into the music school.
2. Explain the meaning of the word (semantics): An unwavering belief or feeling is a strong belief or feeling and one that will not weaken.
3. Display the words you have selected to teach on a poster or word cards in a pocket chart and point to the specific word that you are introducing (orthography).
4. Have students pronounce the word after you (phonology).
5. Provide an additional context for the word, one that is different from the selection context (semantics): A dancer who practices every day to prepare for an audition shows that she has an unwavering desire to be the best dancer that she can be. Her desire is strong and will not weaken even if the practicing is difficult.
6. Use various forms of the word, such as *unwavering*, *unwaveringly* (syntax), and compare *unwavering* and *wavering* (morphology).
7. Engage students in interacting with the word through a variety of activities (semantics, phonology, orthography, morphology, and syntax).

Following is an example of an introductory activity for *unwavering*:

If I describe something that is *unwavering*, say 'Unwavering.' Otherwise, don't say anything.

- A scientist who is working to develop a medicine travels to the rainforest to test a variety of plants that might provide the needed ingredients.
- A student who is working on a report about famous women composers decides to change the topic because it is too time-consuming to do the research.
- A singer who is not chosen for the choir decides to continue her singing lessons so that she can try again.

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Follow-Up Activities

To build unwavering representations of word meanings, students need opportunities to work with the words across time. Daily lessons of 10 to 15 minutes for three or four days can support students in constructing rich representations of word meanings. General categories for vocabulary activities with examples related to the words selected from *When Marian Sang* are presented below.

Example/Nonexample. The activity for introducing *unwavering* is an illustration of an example/nonexample activity. Here is another:

Which would be an example of *trepidation*? Explain your reasons.

- Jumping into a swimming pool or hesitating before testing the water?
- Feeling confident about signing up for a contest or having uncertain feelings about signing up?

Word Associations. For the words *awe*, *endured*, and *restrictions*, you might ask which of the following comments goes with a target word and request that students explain their choices.

- When I applied for a library card, I was surprised by all of the rules that I had to follow just to borrow a book.
- Walking into the dinosaur exhibit at the museum for the first time, I was amazed by the huge skeletons.
- When I read a biography of Gandhi, I marveled at all the trials that he had to face.

Generating Situations, Contexts, and Examples. For the words *dignity*, *prejudice*, and *humiliation*, you might ask students the following questions:

- How might a losing team maintain its dignity?
- What is an example of someone acting with prejudice?
- How did Marian Anderson face the humiliation of not being able to stay in certain hotels?

Word Relationships. Invite students to place the vocabulary words on a continuum and explain their choices.

positive _____ negative

awe _____ prejudice

dignity _____ humiliation

Interesting discussions could develop around the words *unwavering*, *endure*, *restrictions*, and *trepidation*. For example, some restrictions provide warnings about dangerous places and would provide a positive outcome.

Writing. Have students complete sentence stems, such as the following:

- There were many restrictions for using the gym because_____.

- The decorations for the graduation ceremony were awe-inspiring because _____.
- He had an unwavering faith in his sister's ability because _____.

Depending on the words in a given set, other options for encouraging students to interact with the words include the following:

- Associating gestures and facial expressions with a word (What would your face look like if you were experiencing awe? Trepidation? Humiliation?)
- Working in small groups to create pantomimes or skits that demonstrate word meanings

Assessments. Teachers and students need opportunities to monitor word learning. A "speed round" in the form of a timed true/false quiz after a few days of instruction is one way to encourage rapid access to word meanings. A final assessment with multiple items for each word allows students to demonstrate the depth of their word learning.

What Is Most Important to Know About Vocabulary?

FACT: Students' knowledge of words (semantics) can be supported by instruction that focuses on phonology, orthography, morphology, and syntax.

FACT: Students need vocabulary instruction that allows them to build rich representations of words. Such instruction cannot only be incidental. Teachers need to plan and implement vocabulary lessons that can support students in developing the kind of high-quality lexical representations that will endure and be available for reading and writing.

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