

## Clinical Focus

# Effective Vocabulary Instruction Fosters Knowing Words, Using Words, and Understanding How Words Work

Margaret G. McKeown<sup>a</sup>

**Purpose:** This clinical focus article will highlight the importance of vocabulary instruction, in particular, thinking about instruction in terms of focusing students' attention on words and their uses. Vocabulary knowledge that supports literacy and academic learning is extensive and multidimensional. Many learners accumulate high-quality vocabulary knowledge independently, through wide reading and rich language environments that provide abundant practice with words and language forms. However, instruction in vocabulary provides a more efficient way of getting that job done, especially for learners who are less likely to be experiencing rich language interactions, for example, because they struggle with reading and do little of it on their own.

**Method:** Three aspects of vocabulary instruction, choosing words to teach, the inclusion of morphological information, and the importance of engaging students in interactions around words, will be explored. Considerations in choosing words include their role in the language and their utility to students. Morphology will be discussed in terms of using Latin roots in instruction as a resource for unlocking new word meanings and a framework for understanding language.

**Conclusion:** Effective instruction means bringing students' attention to words in ways that promote not just knowing word meanings but also understanding how words work and how to utilize word knowledge effectively.

How many words do you know? You deal with an abundance of words every day, comfortably and fluently. You are breezing along in this text right now with hardly a thought to what you know about each word. However, you have no idea, no way of knowing, just how many words you know. So many words are available to us to process with ease, yet an accounting of those words is beyond our reach. This illustrates why it is hard to get a handle on the role and importance of vocabulary learning. Just as the extent and depth of one's knowledge remains elusive, it is hard to understand the extent and depth of knowledge that needs to be acquired by students for them to experience literacy and academic success. Learning—and teaching—vocabulary is a bit of a stealthy process.

The most obvious aspect of a word's meaning is its definition. However, knowing a definition is by no means the

essence of word knowledge. A rich variety of information is needed about each word in order to support high-quality literacy and academic learning. Useful theoretical perspectives on word knowledge have been offered by many scholars (e.g., McKeown, Deane, Scott, Krovetz, & Lawless, 2017; Nagy & Scott, 2000; Perfetti, 2007). The emphases in their perspectives differ, but three key characteristics are clear in all three:

1. There are many aspects to know about a word, including features of its meaning, situations in which it is used, associations with other words, and how it behaves syntactically in context.
2. Words are polysemous; their meanings are not static but shift according to context. These shifts may be large or subtle; for example, *accommodate* can mean physically providing room for someone and providing for someone's need or request, or it can take a more metaphorical sense of being able to understand a new idea that may challenge your perspective.
3. Word knowledge is incremental, gradually developing over multiple encounters.

Given the complex nature of word knowledge, learners need to develop knowledge that allows them to access

<sup>a</sup>Department of Instruction and Learning, University of Pittsburgh, PA, Emerita

Correspondence to Margaret G. McKeown: mckeown@pitt.edu

Editor-in-Chief: Suzanne Adlof

Editor: Holly Storkel

Received October 31, 2018

Revision received February 5, 2019

Accepted February 25, 2019

[https://doi.org/10.1044/2019\\_LSHSS-VOIA-18-0126](https://doi.org/10.1044/2019_LSHSS-VOIA-18-0126)

**Publisher Note:** This article is part of the Forum: Vocabulary Across the School Grades.

**Disclosure:** The author has declared that no competing interests existed at the time of publication.

meaning rapidly when reading and to use that meaning to make sense of the various contexts in which a word might be encountered. Rapid access to word meanings that are relevant to a given context is necessary to keep comprehension from slowing down and eventually breaking down. Making sense of the range of contexts in which any word might appear requires flexible knowledge that can adapt to different uses of words.

Many learners accumulate high-quality vocabulary knowledge independently, mainly through extensive reading and rich language environments that provide abundant practice with words and language forms. However, instruction in vocabulary provides a more efficient way of getting that job done. A more efficient route to vocabulary knowledge is especially critical for learners who are less likely to be experiencing rich language interactions, for example, because they struggle with reading and do little of it on their own. Lack of adequate vocabulary knowledge can too easily cause these students to be left behind in developing literacy, and many of them will never catch up. The consequence is that a great deal of individual and societal potential goes unrealized.

However, all students can benefit from high-quality vocabulary instruction. Even students who have a large vocabulary repertoire can enrich their knowledge in ways that make it more accessible and productive. For example, it is well accepted that words can be known to different levels of knowledge. As Carey (1978) pointed out in her seminal research on fast and extended mapping of word knowledge, every learner is working on as many as 1,600 word meanings that are in various stages of being known. It seems reasonable that instructional interactions around language can have benefits for a range of learners, even though the words being learned and the pace at which learning accumulates vary for different learners. Instruction may be initiating knowledge for some learners, whereas it may be reinforcing, clarifying, and extending knowledge for others.

As educators take on the responsibility of teaching vocabulary, issues of how to proceed center on which words to teach and the nature of the instruction. This clinical focus article first focuses on selecting which words to teach, based on their utility and role in the language. The focus then turns to an aspect of language that is both a feature of words and a potential aspect of instruction, morphology, which is the structure of words and word parts. The third focus of the clinical focus article is the nature of vocabulary instruction itself, in particular, features that make instruction most effective.

## Which Words to Teach?

A starting point in considering which words merit instructional attention is the nature of the English language. Language is a dynamic human creation and, thus, inherently a bit of a mess.

## Ancestry of English

English, even more than most other languages, is a mishmash, because of historical influences on how the language developed into the English we know today. English began as a Germanic language, Anglo-Saxon or Old English. However, this early language mingled with other languages, with the biggest influence being Latin. Latin influenced English over centuries, either directly or through other Romance languages, especially French. The greatest influence began with the Norman conquest of 1066, which brought French, as spoken by the upper classes, and Latin as the language of books and official documents. In fact, English mingled with Latinate vocabulary to such an extent that modern English seems as much a Romance language as a Germanic language, as far as its word-stock (Baugh & Cable, 1978).

The Germanic versus Latinate divide is significant in how our language is used. The Germanic segment of our word-stock mainly consists of simple, concrete words that typify oral, conversational language. The Latinate portion includes more abstract words that characterize more academic language as found in texts. Of course, the common, high-frequency words are found in text as well. In fact, they make up the majority of words found there. However, the portion of words that particularly characterize text is key to comprehending text. Those words carry the semantic burden in written language.

Consider, for example, the text segment below from the *New York Times* (Casey & Escobar, 2018). In this 49-word segment, the majority—about 38—of the words are high frequency. Yet, without the lower frequency, italicized, and bolded words, it would be difficult to make sense of this passage. The italicized words are considered academic words; the bolded words are more common, but are used here in a metaphorical sense:

“The peace *accords*...were meant to bring an end to five *decades* of fighting that left at least 220,000 dead. Behind the agreement, though, *loomed* a fear: That many of the thousands of fighters *granted amnesty* might **sour on** *civilian* life and pick up **arms** again.” (NY Times, Sept 19, 2018; front page)

The divide between conversational and written aspects of English has been labeled the lexical bar (Corson, 1985, 1995). Corson emphasizes the need for learners to cross this lexical bar or move from using everyday language to mastering text language. This move can be difficult but is crucial to academic success. Crossing the lexical bar requires understanding and using sophisticated, literate vocabulary.

## Word Tiers

The divide between everyday words and the language of text was the starting point for the notion of word tiers (Beck & McKeown, 1985; Beck, McKeown, & Kucan, 2002, 2013). The concept originated when colleagues challenged our recommendations for direct vocabulary instruction,

saying that there were too many words in the language to teach them all. We countered, saying that there was no need to teach all the words. We conceptualized a three-tier heuristic by considering that different words have different utility and roles in the language. Tier 1 words characterize everyday oral language, and children learn these readily when hearing them in context. Tier 3 includes words that tend to be limited to specific domains (e.g., chromosome) or extremely rare (*abecedarian*) and are best learned within their domains.

Tier 2 comprises words that are characteristic of written language (e.g., coherent, diminish, or eloquent) and not so common in conversation (Hayes & Ahrens, 1988). These are words of high utility for literate language users. Tier 2 words overlap to a great extent with general academic words, that is, words that are common across various domains of academic texts. Good databases of academic words include Coxhead's (2000) Academic Word List (AWL) and Gardner and Davies' (2013) more recent Academic Vocabulary List. Each of these lists is based on a large corpus of words from sources such as academic journals and university textbooks across broad academic areas. A difference between academic words and Tier 2 words is that Tier 2 includes words from fiction, whereas academic words are drawn from nonfiction, disciplinary texts. Thus, Tier 2 includes words that typically apply to characters and emotions, such as *sinister*, *mutter*, and *obsessed*. We think these kinds of words are good candidates for instruction, for several reasons. They can help students read and enjoy fiction, they provide students with interesting words to use in describing people and human interactions in writing, and they are rather delicious and fun! Students enjoy, for example, imagining what sinister characters might do or demonstrating muttering versus murmuring.

Children typically have a rather small repertoire of Tier 2 words when they enter school but increase Tier 2 knowledge as they become readers. Tier 2 words are more difficult to learn than Tier 1 words, partly because they are less frequent in the language as a whole—thus the frequent repetition that aided learning Tier 1 words is gone—but also because written context in which Tier 2 words typically appear provides less information about a word's meaning than the immediate oral contexts in which Tier 1 words are found. Think of it this way: When children hear words spoken every day, they have the physical surroundings, gesture, intonation, and familiarity of their everyday life to support figuring out word meaning. However, when they read, or are read to, they have only other words to glean information from.

An important caveat about word tiers is that it is an imprecise concept. It was meant as a heuristic to help bound the selection of words to teach and also to draw attention to properties of words and their roles in the language that make some words more useful to know. Classrooms are typically inundated with words from the various curricular materials that teachers and students deal with. The tiers concept can support teachers in selecting from among that sea of words those words that are most beneficial to attend to and keep around. Tier 2 words are beneficial to learn

because they are found in a variety of texts and can thus provide access to a range of contexts.

Yet, the fact that Tier 2 words can apply to varied contexts also means that these words have multiple related senses or nuances—they are polysemous. Negotiating these shades of meaning can be tricky for learners. A typical sticking point in learning vocabulary is that, when we learn a word, we initially learn a particular sense and then we tend to use that sense to understand subsequent contexts we meet. Thus, if we learn the word *foundation* as an organization that provides funding and then meet a context about people building a “foundation of friendship,” we might think it means an organization that provides funding for friendships.

Rampant polysemy is, then, another reason for giving students supported practice with using these kinds of words. By providing varied contexts and supportive interactions around them, students become able, for example, to understand that a student with academic *potential* is one who has the ability to be a good student and a merchant's *potential* customer is someone who might buy from them. Probing two such contexts also helps students to see that at the core of *potential* is a meaning of “possibility of becoming something in the future.” Word knowledge needs to become decontextualized—generalized beyond specific contexts—to provide the kind of flexibility learners will need as they meet words in new contexts.

As the above discussion of polysemy suggests, it is important to give attention to different senses or nuances of word meaning in instruction. However, it is not necessary to try to include every sense that a word might have—that could get way too confusing! Part of the reason for focusing on different senses is to help students build a general understanding that words can shift their meaning in different contexts and to understand the limits of that. The way my colleagues and I have handled polysemous senses is to provide a definition that describes the core concept of a word, which is broad enough to cover various senses. We employed these kinds of definitions in the middle school vocabulary program we developed called *RAVE* (Robust Academic Vocabulary Encounters; McKeown, Crosson, Beck, Sandora, & Artz, 2012). For example, the definition of *approach* applied to getting physically closer to something and a way to deal with or solve an issue: “If you *approach* something, you get closer to it in order to reach it or to deal with it.” Then, we presented contexts that used the word in both ways and asked students to explain what the context meant. So, for example, for a context such as “Our group had to come up with a new approach for our science project,” the teacher would guide students to understand that the group was trying to figure out a new way to create a science project.

It is important not to confuse polysemy, multiple senses or nuances of related meaning, with words that have multiple unrelated meanings. The latter are actually homographs, words that are spelled the same but with no similarity in meaning. Examples would be *fast* as in speed and *fast* as in to forego food. There is no reason to make a habit of introducing homographs of instructed words. That

is likely to breed confusion. The only circumstances for introducing a homograph would be to avoid confusion with an already known word. So, for example, if *fast*, meaning to forego food, is being taught, mention that students probably already know *fast* as meaning a high rate of speed but that this is another word that sounds and looks the same and has a different meaning.

Consideration of Tier 2 words can provide a focus and a mindset, but it still may not make it easy to find and select precisely which words to teach. It can seem that there are, at once, too many words to choose from and not enough “really good words” to share with students. Which are the right ones? First of all, there is no definitive list of words that students must know. The best guide is to choose from texts students are reading in the classroom, which already come with attached contexts to launch from. Thinking about how to choose among words that appear in texts and curricular materials can be spurred by inspecting lists such as the AWL and the Academic Vocabulary List. Other resources for lists of words include Stahl and Nagy (2006) and Beck, McKeown, and Kucan (2008), which present sets of lists for particular texts and websites that offer word lists for particular content areas, texts, and grade levels (see, e.g., <https://www.vocabulary.com> and <https://www.spellingcity.com>). However, all of these lists should be used along with one’s own prudent judgment, which should include considerations of the word’s general utility and, specifically, if it seems useful to one’s particular students—can you imagine your students finding a way to use the words?

A special case of selecting words can occur when students are reading at levels below their thinking or language comprehension levels. This can occur with both younger and struggling readers. Materials for these students may not offer abundant useful words to teach as far as vocabulary development. A strategy we have used is to select “words about” the text. For example, a simple story may tell the tale of a boy and his dog. You could introduce the word *companion*. Or a story might portray a child’s excitement about an upcoming birthday. You could introduce *anticipate* or *eager*. The best overall strategy for selecting words is to tune your attention to be on the lookout for good words in texts or in experiences that students will interact with. Go for words that are important to a text and frequent enough in the language that learning them is worthwhile.

As far as appropriateness for students of different ages and reading levels, when focusing on increasing students’ knowledge of word meanings, Tier 2 words are appropriate for every level. For example, here are some words we have taught—and students have learned and used—in kindergarten: *extraordinary*, *commotion*, *inseparable*, *cautious*, *reluctant*, *delicate*, *stingy*, and *remarkable*. Note that these words, although considered Tier 2, are not highly polysemous and not as abstract as many on the AWL. The point is to prepare students for language they will be meeting as they go up the grade levels and encounter increasingly academic language. Even if students are not mastering all words that are introduced, the initial experiences are valuable for this preparation.

## Why Include Morphology?

One aspect of vocabulary instruction universally understood in the field is that not only would it be an impossible task to teach every word but it would also be impossible to teach even a majority of agreed-upon, important-to-know words. One way to leverage instruction is to attend to general patterns of language, with morphology being the most prominent among those.

## What Are Morphemes?

Morphology is the study of morphemes, the smallest units of language that have identifiable meaning or function. Types of morphemes include prefixes, suffixes, and roots. So, for example, *unthinkable* has three morphemes: *un*, *think*, and *able*. *Think* is the freestanding root; that is, it can stand on its own as a word. However, our language also contains bound roots, which are word parts that have meaning across words but cannot stand by themselves, such as *nov* in *novel* and *renovate* or *voc* in *vocabulary* and *advocate*. These bound roots are mostly from our Latin heritage, although there are some Greek roots as well.

There are several ways to categorize morphemes:

- Bound or free: Free are basically single-morpheme words, whereas bound morphemes are either affixes or Latin roots.
- Inflectional or derivational: Inflectional morphemes are suffixes added to a word to change number or tense, for example, the *-s* in *dogs* or *-ing* in many verbs. Derivational morphemes are prefixes or suffixes that change the meaning of a word, such as prefixes *un-* and *re-* or suffixes *-tion* and *-able*.
- Content or function: Content morphemes are morphemes that carry semantic meaning. These include words that are nouns, adjectives, adverbs, and verbs, as well as derivational morphemes and bound (Latin or Greek) roots. Function (also called *grammatical*) morphemes are words or suffixes that serve a functional role, such as prepositions, pronouns, or inflectional morphemes.

## What Does Research Say About Including Morphology in Vocabulary Study?

A strong and growing body of research shows that knowledge of morphology contributes to reading comprehension (Anglin, 1993; Carlisle, 1995, 2000; Nagy, Berninger, Abbott, Vaughan, & Vermeulen, 2003). However, evidence that instruction in morphology leads to enhanced comprehension is less clear. Results of morphological instruction show that students often learned the meanings for the word parts they were taught but rarely generalized that to the learning of new words (Bowers, Kirby, & Deacon, 2010; Curtis, 2006). However, recent meta-analyses by Goodwin and Ahn (2013) and Bowers et al. (2010) provided evidence of enhanced spelling and vocabulary learning across 21 morphological interventions and some, albeit small, transfer

to new words and to reading comprehension. Virtually, all research on morphology has focused on derivational morphology (prefixes and suffixes). In some instances, Latin roots were occasionally included in instruction, but their effects were not analyzed separately.

Understanding of Latin roots can provide students with some generative knowledge of language that they can use to unlock meanings of unfamiliar words and a way to give students some understanding of how English got to be the way it is. Providing information about English and its Latin layer can “take the lid off language” to help students see its inner workings. Teaching students about the patterns that words follow makes students aware of the connections within language, such as that *duplicate* and *duplicity* have *double* at the core of their meaning. Understanding patterns of language would seem to help students deal with language and its oddities and feel more in control of their language.

My colleagues and I first added a component of Latin root instruction when we developed our middle school RAVE program (McKeown et al., 2012). We called that component *Becoming Aware of Language* and introduced it by presenting two key concepts about language: that languages are constantly changing and that all languages adopt words from other languages—with English adding a lot of vocabulary from Latin. The RAVE program then introduced several Latin roots in each weekly cycle of instruction. We selected roots that came from the target words and then introduced several more words with the same root. For example, *manipulate* was one of the target words, and in the *Becoming Aware of Language* lesson, we introduced the root *man*, meaning hand, and root-related words *manicure*, *manager*, and *emancipate* (a good resource for identifying roots of words is an online etymological dictionary found at [etymonline.com](http://etymonline.com)).

A potential downside of teaching Latin roots is that roots lack consistency phonologically and orthographically. For example, the root *sed*, meaning to sit, can also be spelled *sid*—as in *preside*. Additionally, the meaning of a Latin root within a word is not always transparent. Consider a set of words that contain the root *voc*, meaning speak or call. That semantic component is easy to understand in the words *vocabulary*, *vocal*, *vociferous*, and even *advocate*, meaning to speak for someone. However, that same root also occurs in *vocation*, which has a more metaphorical relation to the root: A vocation is a calling to some endeavor or profession.

Because roots may demonstrate lack of consistent form or lack of transparent meaning, one principle built into our instruction was flexibility: teaching students to be alert to variations and ready to adapt their thinking about the meaning of a new word they meet. We provided practice in this concept by having activities that asked students to problem-solve by working out meanings of words given contexts that contained an unfamiliar root-related word. For example, we presented a picture of a group of people painting a room, with the caption “These friends are renovating an old house.” Students had already learned that *nov* meant new and then used the visual and semantic

context to figure out that the friends were working to make the house new again.

Despite potential downsides of teaching Latin roots, our view is that knowing about roots, and having some knowledge of specific roots and the words in which they appear, is a resource that students can draw on when encountering a new word in context. This knowledge provides a little extra boost to using context alone to puzzle out new word meaning. Even though learners learn most of the words they know from context, it is notoriously unreliable, as writers write to express ideas, not to teach words. Context may hold strong clues to a word’s meaning, or little or no clue, and may even misdirect readers as to word meaning (see, e.g., Beck, McKeown, & McCaslin, 1983).

In our RAVE work, we did find evidence that students could use their knowledge of roots to unlock the meaning of unfamiliar words (Crosson & McKeown, 2016). For this study, RAVE and control students were given a task that asked them to provide the meaning of root-related words in context. For example, RAVE taught the word *diminish* and the root *min*, and in the study task, we presented the sentence “Most of their conversations were about the minutiae of daily life” and asked “What is this saying about their conversations?” We found that RAVE students were significantly more able to provide an accurate interpretation of the word and context, saying, for example, that the conversations were about small details of life.

In a subsequent project, a vocabulary program designed specifically for English learners focused even more strongly on Latin roots. That program is discussed in another article in this forum (Crosson, McKeown, Robbins, & Brown, 2019).

Full instruction in lexical morphology is likely not appropriate for students younger than upper elementary. However, teachers or clinicians can certainly take advantage of opportunities when working with young students. For example, if the words *vocabulary* and *vocal* have been encountered, you might mention that they both have *voc* in them, which means speak, and ask how that relates to each word. No need to go into language history or Latin, but just plant the seed about language having meaningful parts.

## Keys to Effective Instruction

Effective instruction means bringing students’ attention to words in ways that promote not just knowing word meanings but also understanding how words work and how to utilize word knowledge effectively in higher level tasks, such as reading comprehension. Research on vocabulary development, vocabulary instruction, and its relationship to comprehension has a long and rich history (see Baumann, 2009). Over several decades of investigation, a strong consensus has formed about features of effective vocabulary instruction, which can be summarized as follows: present both definitional and contextual information, provide encounters with words in multiple contexts, and engage students’ active processing of word meanings. This research has included reviews of multiple studies and individual intervention studies that compare more traditional instruction to

instruction that included broad information about words and activities to engage students with using words. Table 1 presents some of the key research milestones that were instrumental in leading to that consensus. More recent intervention research has confirmed that consensus in studies that focus on students as young as kindergarten (Coyne, McCoach, Loftus, Zipoli, & Kapp, 2009; Coyne et al., 2010; McKeown & Beck, 2014; Silverman, 2007) and even preschool (Wasik & Bond, 2001) and on English learners (Carlo et al., 2004; Kieffer & Lesaux, 2012). Additionally, a recent meta-analysis confirmed that explicit instruction and depth of processing yield the strongest effects for children at risk (Marulis & Neuman, 2013).

To reiterate, these principles of effective instruction have been found to apply for teaching word meanings for all students—students of all levels, pre-K through high school; learners learning English as an additional language; and learners with learning disabilities. Note, however, that teaching word meanings differs from teaching students to read. Reading requires a different kind of instruction and practice. Although it is a good practice to at least familiarize students with the orthographic representations of words being taught for meaning, the emphasis and goals are different.

The need for instruction that focuses on definitional and contextual information, encounters in multiple contexts, and active processing stems from the nature of word meaning itself. Because word meaning is, as discussed earlier, multifaceted, polysemous, and flexible, it should be clear, first, that a definition of a word will not suffice for effective learning. A definition can only capture limited information, and although definitions can be a good starting point, or

good shorthand for remembering a word's meaning, knowing definitions will not support comprehension (McKeown, Beck, Omanson, & Pople, 1985; Stahl & Fairbanks, 1986).

The multifaceted, polysemous nature of word knowledge also means that vocabulary learning is incremental. It is virtually impossible to learn everything you need to know about a word from just one encounter. Experiencing words in multiple contexts leads learners to build rich networks of connections to a word and across similar words. A word's meaning becomes generalized across encounters, losing its connection to specific contexts, which allows it to be applied flexibly to new contexts. Flexible knowledge enables learners to bring the most relevant aspects of a word's meaning to bear in making sense of subsequent contexts in which the word is met (Reichle & Perfetti, 2003).

However, simply encountering words in multiple contexts does not maximize learning. A learner needs to engage in active processing of the information in those encounters in order to reap top benefits. Active processing means interacting with words—manipulating ideas around words in order to extend and deepen knowledge of the word, its uses, and its connections to other words and situations. This is requisite for building the kind of rich and flexible knowledge that will support students in comprehending and using language.

The focus of this section is what effective interactions that engage students' active processing look like. The core of such interactions is really pretty simple—prompt students to do something with the words that encompasses thinking about features of a word's meaning and how the word can be used. The activities presented are generally examples of activities that teachers have used with whole classrooms,

**Table 1.** Research milestones in establishing consensus on vocabulary instruction.

Reference	Type of article	Features most effective for comprehension
Mezynski (1983)	Review of eight intervention studies	More practice, breadth of instructional techniques, active processing
Graves (1986)	Review of 41 intervention studies	Multifaceted instruction, multiple encounters, active processing
Stahl & Fairbanks (1986)	Meta-analysis of 52 intervention studies	Both definitional and contextual information, multiple encounters, active processing
Margosein et al. (1982)	Intervention with junior high students Words from context versus semantic mapping (focusing on and discussing word features)	Focusing on and discussing word features
McKeown et al. (1985)	Intervention with fourth graders, compared definitional and rich instruction	Both definitional and contextual information, multiple encounters, active processing
Bos & Anders (1990, 1992)	Intervention with high school students with learning disabilities Compared three interactive approaches that involved focus on word features and associations to definitions (1990) Bilingual elementary and junior high students (1992)	Interactive approaches with focus on word features and relationships
Dole et al. (1995)	Intervention with high school students Definitions versus learning words through discussing their use in literature	Active discussion of word use
National Reading Panel (2000)	Comprehensive overview of research in eight areas, including vocabulary	Multiple exposures, rich contexts, and active processing

but they could easily be used or slightly adapted to be used in a clinical setting, such as by a speech-language pathologist and an individual student. The activities are appropriate for all levels as well. The same activity formats can be used with kindergartners or high schoolers; the words themselves and the responses of the students drive the maturity level of the discussions. The examples used here are from first grade, second grade, and middle school.

The following examples illustrate interactions that are intended to prompt student thinking about different aspects and features of word meaning. Experiencing this variety helps students build a flexible, reflective approach to words and their uses. This first activity helps students think about how different words can relate to the same contexts and to choose the word they would apply. The teacher would then follow up by asking the student to explain how their choice fits:

- I will say something, and you tell me if you would be *eager* to do it or *reluctant* to do it:
  - Try out a flying machine
  - Taste a new food made of seaweed
  - Taste a new kind of chocolate
  - Enter a singing contest

Interactions that ask students to make choices can prompt them to reflect on a word's features, for example, the extent of change that *refine* entails.

- Which would be *refining* something:
  - Making some small changes to your science project or starting all over with a new one?
  - Getting your hair trimmed or having your head shaved?

It is important to include interactions that prompt students to think about different senses of a word, such as the different senses of *expose* in the following:

- How could middle school students be *exposed* to what it will be like in high school?
- How could you *expose* someone who was mistreating his dog?

Interactions can and should be quick and fun! We have seen teachers turn up the fun quotient in various ways. One example is the way they ask students to indicate their response. A teacher we worked with told her first-grade students, "If you think I'm talking about something that is *mighty*, show me your muscles," and then provided examples such as "a strong woman lifting up a tiger" and "a big river that floods nearby homes."

Interactions should include providing feedback to students, for example, asking "why" when a student responds to the *eager/reluctant* prompts. Feedback helps to build and reinforce connections to a word in the student's mental lexicon.

Asking students to provide their own examples of a word is an interaction strategy that is easily implemented

and potentially effective. For example, simply ask "What is something in your life that you would like to refine?" or "What is something you are always eager to do?" Asking students to create their own examples, however, should not be one of the first activities students are asked to do with a newly introduced word. Students often have difficulty coming up with their own ideas initially and often repeat the context in which a word has been introduced. So calling on students' creative use of words is best employed after students have been exposed to a number of uses and had time to reflect on how it might apply to them.

Feedback is especially important for interactions that prompt student-created examples, to monitor understanding and keep responses on the right track or redirect if necessary. A good way to build an effective habit of feedback is to think about the rule of thumb of improv comedy—"Yes, and..." which involves acknowledging what someone has said and then expanding on it. In an improv troupe, this keeps the comedy rolling; in vocabulary instruction, it keeps the connections building. Note the "yes, and"-ing in the following exchange:

Teacher: What is something you'd want if you were famished?

Student: Pizza.

Teacher: Mm, pizza! And what would you do with that pizza if you were famished?

Student: Gobble it all right up!

Teacher: Oh, boy, yeah, because if you're famished, do you want just one piece of pizza?

Note in this next example that the teacher's "and" allows her to prompt students to generalize about entailments of the target word *delicate*.

Teacher: What are some things that are *delicate*? ...

Student 1: A glass vase.

Student 2: A brand new baby.

Teacher: What is it about delicate things, like vases and babies? How do we have to act around them?

Student 3: Be really, really careful....

Although the above examples of "yes, and" are from a classroom discussion, that technique is strongly applicable to clinical interactions between one child and a clinician. A clinician is in a good position to tailor feedback to a student's individual needs and interests.

Because vocabulary learning requires multiple exposures and because time with students is a precious resource, we need to seek ways to leverage attention to words, or figure out how to get more bang for the buck! Having a clinician coordinate with a student's classroom teacher could offer an ideal opportunity to leverage attention to vocabulary. A clinician can ask the classroom teacher for words that the class is focusing on or words that a particular student needs help with. The clinician is in a good position, then, to apply playful techniques, such as the activities exemplified above; to provide practice in vocabulary; and to build enjoyment with language. The clinician is also in a good position to provide extension and enrichment, for example,

by introducing other words that associate with the classroom vocabulary. Because the activities suggested set a conversational, spontaneous tone, they might allow the clinician to identify gaps in a student's vocabulary repertoire and both directly help with those and inform the teacher about words that seem unfamiliar to a student or difficult for a student to use.

Another way for clinicians to enhance vocabulary attention is through their own word use. This can start with awareness of their own language use, deliberately using sophisticated words—both those that are being taught and others that are appropriate to situations—in interactions with students. Challenge students to “catch” you using target words and then turn it around—challenge students to use target words during lessons and provide some sort of points or simple rewards when they do.

Another important leverage point in vocabulary instruction is prompting students to use and be aware of words outside formal instruction. Such prompting can start with informal coordination among school professionals—classroom teacher, clinician, and beyond. This might begin with posting a list of target words on the classroom door and privately encouraging other adults to use the words when they visit or when students work with them. A next level of increased attention could include a vocabulary bulletin board, posting interesting uses of target words, both those found in written materials and those that students have generated.

Going beyond instructional sites for vocabulary should also include going beyond school, motivating students to take their vocabulary awareness home with them. Clinicians can easily take a lead role in this and then prompt the classroom teacher to join in. Challenge students to find target words in books they are reading, in menus, music, and video games, and to use the words with their families. My colleagues and I have promoted these kinds of activities in two studies and found that students respond with enthusiasm! However, best of all, we found that it affects the outcomes. In a fourth-grade study, when students were offered the opportunity to find words outside class through an activity we called *Word Wizard*, we found increased comprehension effects over instruction that did not include the Wizard component (McKeown et al., 1985).

In a study with sixth graders, we invited them to engage through *In the Media*, an activity that challenged them to find their words in any media outside school. We received great response, including students finding words in sports broadcasts—*dynamic* players—and in Sunday school verses! In that study, we found that students who engaged with *In the Media* had greater learning gains on a vocabulary posttest (McKeown, Crosson, Artz, Sandora, & Beck, 2013). Although our direct experiences have involved fourth grade and middle school students, we have worked with teachers who have had success with such activities with students from kindergarten through high school.

If students do not respond at first to the idea of finding words, that activity can be seeded with some specific

directions to spur students on. For example, ask them to notice in something they read, hear, or see, such as

- someone who does something *voluntary*
- someone who needs to *adapt* to a new situation
- someone who had to *consult* with another person.

Or you might ask them to choose one of their vocabulary words to describe

- a character in a book they are reading
- someone on the news or in the newspaper
- someone in a commercial
- an actor in a video or movie.

As a final point, it is necessary to include a caveat to clinicians: You may be disappointed to find that teachers you work with devote little, if any, time to vocabulary. Even if they do, the words they work with may not be the best choices for generative vocabulary building, but words with specific and narrow use in curricular materials. If that situation is in play, you are on your own—so I implore you to take up the mantle of vocabulary progenitor! This can flow from a cultivated interest and attention to words and word use. Choose words that appear in student materials or that emerge from current school or community events, for example. Use newspapers, websites, word lists such as the AWL (Coxhead, 2000), or words you bump into in your own reading to create a set of words to use with students. Included in the Appendix are the words we taught in RAVE, all of which are taken from the AWL.

## Wrapping Up

Always keep in mind that language is a strange, fascinating, vibrant human creation. Exploring its puzzlements and figuring out its patterns should be endlessly intriguing. Sparking that kind of attitude in students takes them a long way toward being successful, confident language users. Clinicians and teachers can propel students along that way by choosing useful, interesting words, helping students get an initial understanding of them through multiple exposures and lively interactions, and clinicians and teachers, as well as other school personnel in contact with students, can encourage students to notice and revel in words in their environment. The essence of all these activities that keep attention focused on vocabulary is to generate excitement around words and students' uses of them.

## Acknowledgments

The author gratefully acknowledges the Institute for Education Sciences of the U.S. Department of Education for its support to some of the research described in this clinical focus article: Robust Instruction of Academic Vocabulary for Middle School Students, Award R305A100440 granted to Margaret G. McKeown and Isabel L. Beck from the Institute of Education Sciences, U.S. Department of Education. The opinions expressed do not



necessarily reflect those of the institute, and no official endorsement should be inferred.

## References

- Anglin, J. M. (1993). Vocabulary development: A morphological analysis. *Monographs of the Society of Research in Child Development*, 58, i–186.
- Baugh, A. C., & Cable, T. (1978). *A history of the English language* (6th ed.). New York, NY: Routledge.
- Baumann, J. F. (2009). Vocabulary and comprehension: The nexus of meaning. In S. E. Israel & G. G. Duffy (Eds.), *Handbook of research on reading comprehension* (pp. 323–346). New York, NY: Routledge.
- Beck, I. L., & McKeown, M. G. (1985). Teaching vocabulary: Making the instruction fit the goal. *Educational Perspectives*, 23(1), 11–15.
- Beck, I. L., McKeown, M. G., & Kucan, L. (2002). *Bringing words to life: Robust vocabulary instruction*. New York, NY: Guilford.
- Beck, I. L., McKeown, M. G., & Kucan, L. (2008). *Creating robust vocabulary: Frequently asked questions and extended examples*. New York, NY: Guilford.
- Beck, I. L., McKeown, M. G., & Kucan, L. (2013). *Bringing words to life: Robust vocabulary instruction* (2nd ed.). New York, NY: Guilford.
- Beck, I. L., McKeown, M. G., & McCaslin, E. S. (1983). Vocabulary development: All contexts are not created equal. *The Elementary School Journal*, 83, 177–181.
- Bos, C. S., & Anders, P. L. (1990). Effects of interactive vocabulary instruction on the vocabulary learning and reading comprehension of junior-high learning disabled students. *Learning Disability Quarterly*, 13(1), 31–42.
- Bos, C. S., & Anders, P. L. (1992). Using interactive teaching and learning strategies to promote text comprehension and content learning for students with learning disabilities. *International Journal of Disability, Development and Education*, 39(3), 225–238.
- Bowers, P. N., Kirby, J. R., & Deacon, S. H. (2010). The effects of morphological instruction on literacy skills: A systematic review of the literature. *Review of Educational Research*, 80(2), 144–179.
- Carey, S. (1978). The child as word learner. In M. Halle, J. Bresnan, & G. Miller (Eds.), *Linguistic theory and psychological reality* (pp. 264–293). Cambridge, MA: MIT Press.
- Carlisle, J. F. (1995). Morphological awareness and early reading achievement. In L. Feldman (Ed.), *Morphological aspects of language processing* (pp. 189–209). Hillsdale, NJ: Erlbaum.
- Carlisle, J. F. (2000). Awareness of the structure and meaning of morphologically complex words: Impact on reading. *Reading and Writing: An Interdisciplinary Journal*, 12, 169–190.
- Carlo, M. S., August, D., McLaughlin, B., Snow, C. E., Dressler, C., Lippman, D. N., . . . White, C. E. (2004). Closing the gap: Addressing the vocabulary needs of English language learners in bilingual and mainstream classrooms. *Reading Research Quarterly*, 39, 188–215.
- Casey, N., & Escobar, R. (2018, September 19). Colombia struck a peace deal with guerrillas, but many return to arms. *New York Times*. Retrieved from <http://www.nytimes.com>
- Corson, D. J. (1985). *The lexical bar*. Oxford, United Kingdom: Pergamon Press.
- Corson, D. J. (1995). *Using English words*. Dordrecht, the Netherlands: Kluwer Academic.
- Coxhead, A. (2000). A new academic word list. *TESOL Quarterly*, 34(2), 213–238.
- Coyne, D. M., McCoach, D. B., Loftus, S., Zipoli, R., Jr., & Kapp, S. (2009). Direct vocabulary instruction in kindergarten: Teaching for breadth versus depth. *The Elementary School Journal*, 110(1), 1–18.
- Coyne, D. M., McCoach, D. B., Loftus, S., Zipoli, R., Ruby, M., Crevecoeur, Y., . . . Kapp, S. (2010). Direct and extended vocabulary instruction in kindergarten: Investigating transfer effects. *Journal of Research on Educational Effectiveness*, 3(2), 93–120.
- Crosson, A. C., & McKeown, M. G. (2016). Middle school learners' use of Latin roots to infer the meaning of unfamiliar words. *Cognition and Instruction*, 34(2), 1–24.
- Crosson, A. C., McKeown, M. G., Robbins, K. P., & Brown, K. J. (2019). Key elements of robust vocabulary instruction for emergent bilingual adolescents. *Language, Speech, and Hearing Services in Schools*, 50, 493–505. [https://doi.org/10.1044/2019\\_LSHSS-VOIA-18-0127](https://doi.org/10.1044/2019_LSHSS-VOIA-18-0127)
- Curtis, M. E. (2006). The role of vocabulary instruction in adult basic education. In J. Comings, B. Garner, & C. Smith (Eds.), *Review of adult learning and literacy* (Vol. 6, pp. 43–69). Mahwah, NJ: Erlbaum.
- Dole, J. A., Sloan, C., & Trathen, W. (1995). Teaching vocabulary within the context of literature. *Journal of Reading*, 38(6), 452–460.
- Gardner, D., & Davies, M. (2013). A new academic vocabulary list. *Applied Linguistics*, 35(3), 305–327.
- Goodwin, A. P., & Ahn, S. (2013). A meta-analysis of morphological interventions in English: Effects on literacy outcomes for school-age children. *Scientific Studies of Reading*, 17(4), 257–285.
- Graves, M. F., & Prens, M. C. (1986). Costs and benefits of various methods of teaching vocabulary. *Journal of Reading*, 29(7), 596–602.
- Hayes, D. P., & Ahrens, M. (1988). Vocabulary simplification for children: A special case of “motherese.” *Journal of Child Language*, 15, 395–410.
- Kieffer, M. J., & Lesaux, N. K. (2012). Effects of academic language on relational and syntactic aspects of morphological awareness for sixth graders from linguistically diverse backgrounds. *Elementary School Journal*, 112(3), 519–545.
- Margosein, C. M., Pascarella, E. T., & Pflaum, S. W. (1982). *The effects of instruction using semantic mapping on vocabulary and comprehension*. Paper presented at the meeting of the American Educational Research Association, New York, NY.
- Marulis, L. M., & Neuman, S. B. (2013). How vocabulary interventions affect young children at risk: A meta-analytic review. *Journal of Research on Educational Effectiveness*, 6, 223–262.
- Mezynski, K. (1983). Issues concerning the acquisition of knowledge: Effects of vocabulary training on reading comprehension. *Review of Educational Research*, 53(2), 253–279.
- McKeown, M. G., & Beck, I. L. (2014). Effects of vocabulary instruction on measures of language processing: Comparing two approaches. *Early Childhood Research Quarterly*, 29(4), 520–530.
- McKeown, M. G., Beck, I. L., Omanson, R. C., & Pople, M. T. (1985). Some effects of the nature and frequency of vocabulary instruction on the knowledge and use of words. *Reading Research Quarterly*, 20, 522–535.
- McKeown, M. G., Crosson, A. C., Artz, N. J., Sandora, C., & Beck, I. L. (2013). In the media: Expanding students' experience with academic vocabulary. *The Reading Teacher*, 67(1), 45–53.
- McKeown, M. G., Crosson, A. C., Beck, I., Sandora, C., & Artz, N. (2012). *Robust Academic Vocabulary Encounters (RAVE)*. Intervention developed for Robust Instruction of Academic

- Vocabulary for Middle School Students. Institute of Education Sciences, U.S. Department of Education, Award R305A100440.
- McKeown, M. G., Deane, P. D., Scott, J. A., Krovetz, R., & Lawless, R. R.** (2017). *Vocabulary assessment to support instruction: Building rich word-learning experiences*. New York, NY: Guilford.
- Nagy, W. E., Berninger, V., Abbott, R., Vaughan, K., & Vermeulen, K.** (2003). Relationship of morphology and other language skills to literacy skills in at-risk second grade readers and at-risk fourth grade writers. *Journal of Educational Psychology, 95*(4), 730–742.
- Nagy, W. E., & Scott, J. A.** (2000). Vocabulary processes. In M. L. Kamil, P. B. Mosenthal, P. David Pearson, & R. Barr (Eds.), *Handbook of reading research* (Vol. 3, pp. 69–284). Mahwah, NJ: Erlbaum.
- National Reading Panel.** (2000). *Teaching children to read: An evidence-based assessment of the scientific literature on reading and its implications for reading instruction* (NIH Pub. No. 00-4754). Washington, DC: National Institutes of Health.
- Perfetti, C. A.** (2007). Reading ability: Lexical quality to comprehension. *Scientific Studies of Reading, 11*(4), 357–383.
- Reichle, E. D., & Perfetti, C. A.** (2003). Morphology in word identification: A word-experience model that accounts for morpheme frequency effects. *Scientific Studies of Reading, 7*(1), 219–238.
- Silverman, R.** (2007). A comparison of three methods of vocabulary instruction during read-alouds in kindergarten. *Elementary School Journal, 108*(2), 97–113.
- Stahl, S. A., & Fairbanks, M. M.** (1986). The effects of vocabulary instruction: A model-based meta-analysis. *Review of Educational Research, 56*, 72–110.
- Stahl, S. A., & Nagy, W. E.** (2006). *Teaching word meanings*. Mahwah, NJ: Erlbaum.
- Wasik, B. A., & Bond, M. A.** (2001). Beyond the pages of a book: Interactive book reading and language development in preschool classrooms. *Journal of Educational Psychology, 93*, 243–250.

## Appendix (p. 1 of 2)

### Words Taught in Robust Academic Vocabulary Encounters Program

#### Sixth grade

academic	diminish	outcome
access	dominant	perceive
acknowledge	dramatic	perspective
acquire	empirical	potential
adapt	establish	preliminary
adequate	exceed	priority
adjacent	exploit	process
allocate	expose	prohibit
alter	external	prospect
ambiguous	extract	rational
anticipated	features	refine
approach	foundation	restrict
assume	function	retain
benefit	implement	reveal
bias	incentive	rigid
capable	inclination	significant
compatible	incorporate	straightforward
compensate	induce	submit
compile	inherent	substitute
confine	initiative	suspend
conform	innovative	sustain
consent	insights	symbolic
consequences	integral	techniques
consult	interact	traditional
consume	internal	transfer
contradict	interpret	transmit
controversy	invoke	trend
convene	isolate	undertake
convert	manipulate	unify
criteria	mutual	unique
crucial	neutral	utility
derive	notion	virtually
detect	obtain	voluntary

(table continues)

---

**Appendix** (p. 2 of 2)

Words Taught in Robust Academic Vocabulary Encounters Program

---

**Seventh grade**

---

abstract	definitive	invest
accommodate	despite	maintain
accumulate	deviate	marginal
advocate	devote	methodical
alternative	differentiate	minimize
amend	distort	modify
analogous	diverse	monitor
arbitrary	domestic	objective
assess	duration	orient
assure	dynamic	passive
attain	encounter	presume
attribute	enhance	principle
capacity	erode	recover
cease	evident	regulate
circumstances	exclude	relevant
civil	explicit	reliable
coherent	facilitate	reside
coincide	finite	resolve
commitment	fluctuate	restrain
complement	fundamental	sequential
complex	generate	simulate
comprehensive	global	specify
concept	hierarchy	sufficient
concurrent	imply	supplement
confirm	incident	transition
considerable	indicate	trigger
consistent	inevitable	ultimate
constraint	inhibit	valid
constructive	integrate	variable
contemporary	integrity	version
coordinate	interval	welfare
decline	intervene	widespread

---