Nine things every teacher should know about words and vocabulary instruction

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Teaching vocabulary well is a key aspect of developing engaged and successful readers.

"There is a great divide between what we know about vocabulary instruction and what we (often, still) do" (Greenwood, 2004, p. 28). Many teachers know they need to do a better job teaching vocabulary to students who find reading difficult (Tompkins & Blanchfield, 2004). Teachers also know that one of the challenges of struggling middle school readers is their limited vocabulary and knowledge of the world (Broaddus & Ivey, 2002). While teaching vocabulary well in every curriculum area is only one aspect of developing engaged and successful readers, it is a key aspect.

Traditional vocabulary instruction for many teachers involves having students look words up in the dictionary, write definitions, and use words in sentences (Basurto, 2004). Word lists, teacher explanation, discussion, memorization, vocabulary books, and quizzes often are used in an effort to help students learn new words. But these methods ignore what research and theory tell us about word learning and sound vocabulary instruction.

Vocabulary is a principle contributor to comprehension, fluency, and achievement. Vocabulary development is both an outcome of comprehension and a precursor to it, with word meanings making up as much as 70–80% of comprehension (Davis, 1972; Nagy & Scott, 2000;

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Pressley, 2002). Fluent readers recognize and understand many words, and they read more quickly and easily than those with smaller vocabularies (Allington, 2006; Samuels, 2002). Students with large vocabularies understand text better and score higher on achievement tests than students with small vocabularies (Stahl & Fairbanks, 1986).

What should middle and high school teachers understand about word learning? This article discusses nine things teachers may have forgotten (or have never known) but need to remember about words and word learning to be effective teachers of vocabulary and their content area. Suggestions for classroom practice related to each idea are provided.

1. English is a huge and unique collection of words. English is three times larger in total number of words than German and six times larger than French. Three out of every four words in the dictionary are foreign born. Many words are pronounced the same in both languages (Lederer, 1991), including *camel* (Hebrew), *zoo* (Greek), *shampoo* (Hindi), and *opera* (Italian). English grows and changes daily with neologisms (new words) from science, technology, and our culture. Things to do:

- Teach students words recently added to the Merriam-Webster's Collegiate Dictionary (2005; www.m-w.com/info/new_words.htm), such as *cybrarian* (noun)—a person

who finds, collects, and manages information from the World Wide Web.

- Invite students to create their own lists of words and the definitions they think will soon be added to the dictionary. Have them find these words in our spoken language, their reading, the news, and other media.

- Give students a passage that contains words like *good*, *nice*, *said*, and *happy*. Have them work in pairs using dictionaries and thesauruses to find substitutes for these overworked words. Find an online thesaurus (e.g., http://thesaurus.reference. com/search?r=2&q=suggest). Then, have students rewrite the passage and share it with the class to show how they have made it more interesting and powerful.

- Have students edit one another's work using dictionaries and thesauruses to find and suggest more descriptive words.

2. The rules of English are simple and consistent compared to other languages. Despite the belief that English is a highly irregular language, it is actually quite orderly and constant (Lederer, 1991; Moats, 2005/2006). Twenty-one of 26 alphabet letters are consonants with fairly consistent pronunciations, while 5 vowels vary in the way they are said. In contrast, the Russian language has 32 alphabet letters and the Japanese and Chinese alphabets contain thousands of characters representing many more than the 44 sounds in English. Some languages such as Chinese, Thai, and Lao are tonal, and a word can be said using several different tones, with each tone changing the meaning of the word. Things to do:

- Invite an English as a second language teacher or teacher of another language to speak to your students or coteach a lesson with you to demonstrate the similarities and differences between English and another language.

- Invite students who speak another language or are learning a language to talk about the differences and similarities they notice between English and the other language.

- Teach students the prefixes, roots, and suffixes that appear most often in English and are constant in their meaning and pronunciation (Bromley, 2002) (see Table 1). When students know one prefix, root, or suffix, it helps unlock the meanings of other words with the same prefix, root, or suffix. For example, knowing the root *aud* means to *hear* can help students understand the meaning of *audience*, *auditorium*, *audition*, and *audible.*

3. Language proficiency grows from oral competence to written competence. Typically, the words and concepts students absorb and use as they listen and talk are the foundation for what they will read and write later. Broad word knowledge enables students to communicate in ways that are precise, powerful, persuasive, and interesting because words are tools for analyzing, inferring, evaluating, and reasoning (Vacca, Vacca, Gove, Burkey, Lenhart, & McKeon, 2005). As a result, students with large vocabularies tend to be articulate and possess the confidence that is sometimes not exhibited by students who lack vocabulary and conceptual knowledge. Things to do:

- Read literature aloud to students, stopping to explain and talk about words they may not know. Share Trelease's (2001) notion with students that the best SAT preparation course in the world is to hear literature read aloud because the richer the words student hear, the richer the words will be that they can read and give back when they speak and write.

- Play oral games with content vocabulary so students can explore pronunciations, visual display, and meanings simultaneously.

- Encourage students to ask about words they don't know. As Hahn (2002) said, "I make it a point to talk over my students' heads as much as possible.... It's OK to ask

Table 1
The most frequently appearing and most commonly taught prefixes, roots, and suffixes

Most common prefixes

Prefix	Definition	Example
re-	again	review, revoke
un-	not	unable, untrue
in-	into or not	insight, inert
en-	in, put into	enliven, ensnare
ex-	out	exit, extinguish
de-	away, from	deflect, denounce
com-	together, with	commune, communicate
dis-	apart	dishonest, disagree
pre-	before	prevent, predict
sub-	under	submerge, submarine

Most common roots

Root	Definition	Example
tract	drag, pull	tractor, distract
spect	look	inspect, spectacle
port	carry	portable, important
dict	say	diction, dictionary, prediction
rupt	break	interrupt, rupture
scrib	write	inscribe, describe, scripture
cred	believe	credit, discredit
vid	see	video, evidence
aud	hear	audience, auditorium, audible

Most common suffixes

Suffix	Definition	Example
-ly	having the quality of	lightly, sweetly, weekly
-er	more	higher, stronger, smoother
-able/-ible	able to	believable, deliverable, incredible
-tion/-sion	a thing, a noun	invention, suspension, tension, function
-cle	small	particle
-less	without	treeless, motionless
-est	most	biggest, hardest, brightest
-ment	quality or act	contentment, excitement, basement
-ness	quality or act	kindness, wildness, softness
-arium	a place for	aquarium, terrarium
-ling	small	duckling, gosling, hatchling

what a word means and it's necessary for survival in my classroom" (p. 67).

- Include small-group discussions and oral presentations in your teaching so students can listen to one another and use content area vocabulary in speaking before they use it in writing.

- Have students work together to write "paired sentences" as a way to develop their concept and word knowledge. For example, give students two terms and ask them to talk first and then write about how they are similar and how they are different.

4. Words are learned because of associations that connect the new with the known. When students store new information by linking it to their existing schema, or network of organized information, there is a better chance the new word will be remembered later (Rupley, Logan, & Nichols, 1999). Also, information about words is "dual-coded" as it is stored in memory (Paivio, 1990). It is processed in linguistic form that includes print and meaning and nonlinguistic form that includes visual and sensory images. Learning a word's linguistic elements is enhanced by storing a nonlinguistic form or sensory image along with the linguistic image. Things to do:

- Engage students' prior knowledge and related experiences before teaching new words to introduce a chapter or content area selection. For example, before reading a selection on Communication Cyberspace, teach the word *blog*, define it (an online journal), provide the word's derivation (blog comes from web log), and show a picture of someone seated at a computer composing an essay or report to post on their personal website. Then, show students an actual blog, (e.g., Jessamyn West's www.librarian.net/).

- Use the K–W–L strategy (know, want to know, and learned; Ogle, 1986) when you introduce a new word. First, list what stu-

dents already know about the word and what they want to know about it. After you've taught the word or students have read it, make a list of what they learned about the word.

- Depending on students' abilities, either individually or in pairs, have them create three-dimensional words (Bromley, 2002). On paper (see Figure 1), have students include a definition, sentence, drawing, and real object to represent the word. Then have students peer teach their words to one another in small groups or to the whole class and post their work on a bulletin board for review and reference.

5. Seventy percent of the most frequently used words have multiple meanings. Students need to remember this fact (Lederer, 1991). It is especially important for struggling readers and English-language learners to understand this and learn to use context to help derive appropriate meanings for words. For example, *hand* can have many meanings (e.g., to give someone something, applause, a way of measuring a horse's height, cards dealt to someone playing a card game, or the part of the anatomy at the end of the wrist). Words such as *foot*, *ball*, and *java* also possess multiple meanings. Context often helps unlock the meaning of words, but when it doesn't help, students have a purpose for using the glossary, dictionary, or thesaurus. Using these references can expand vocabularies and encourage curiosity about words. Things to do:

- Use a fiction or nonfiction selection to teach students how context can give clues to a word's meaning in several ways. Show students that many words have multiple meanings and explicitly teach them how to use context and references to help unlock appropriate meanings.

- Show students how to use context to figure out new words by reading to the end of a sentence or paragraph, reading a caption, analyzing a picture or graphic, or looking

Figure 1
A three-dimensional word
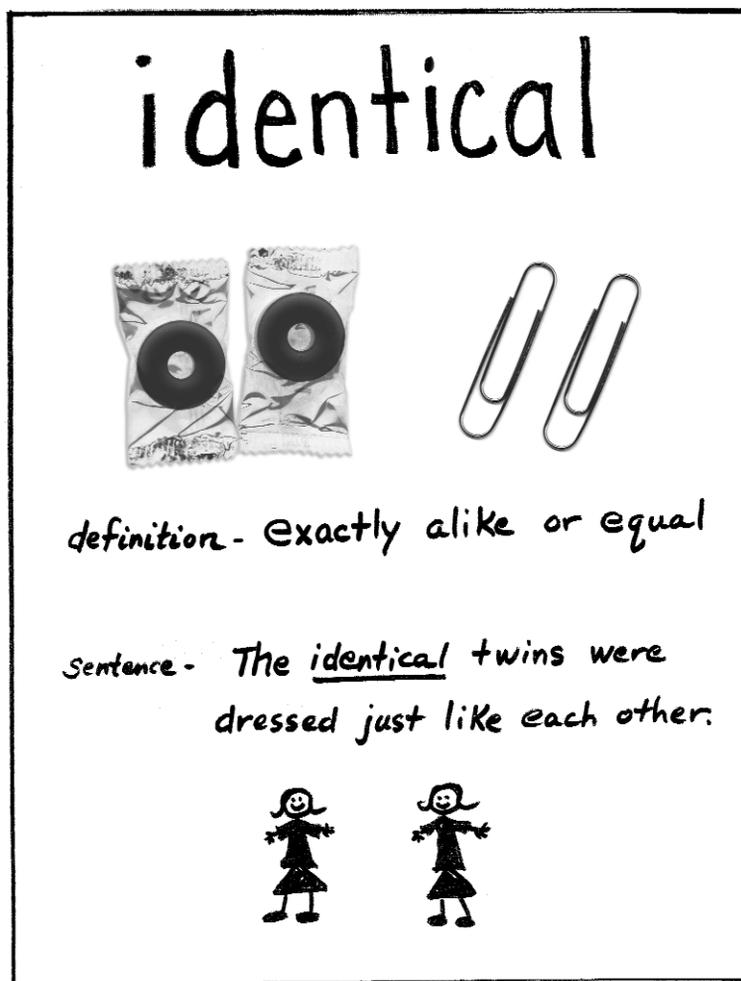
at a footnote. Teach students to use a picture, a phrase that defines a word, a synonym or antonym, or the position of the unknown word in a series of other words. For example, *commodity* can have several meanings (e.g., merchandise, goods, article, asset, belonging, chattel). But, the context of the following sentence suggests *merchandise* or *goods* as possible meanings and rules out *belonging* or *chattel*: Our product combines intermarket analysis and predicted moving averages to generate consistently accurate commodity forecasts.

• Challenge students to make as many words as they can from a key content term like *evaporation*, *ecosystem*, or *geography* (99 smaller words can be made from the word *planets*). Then teach them the multiple meanings of some of the smaller words they have created.

6. Meanings of 60% of multisyllabic words can be inferred by analyzing word parts. Students also need a mindset to alert them to this (Nagy & Scott, 2000). Knowing the meaning of a root, prefix, or suffix often gives clues to what a word means. Because much of the English language comes from Greek and Latin, we would do well to teach students the common derivatives. This is especially true in science because it contains many multisyllabic terms. Knowing just a few roots makes it much easier to figure out several other words that contain these roots. There are many dictionaries of Greek and Latin roots to help students infer meanings of difficult, multi-syllabic terms. Things to do:

- Print a short dictionary of Greek and Latin roots for each of your students like the Dictionary of Greek and Latin Roots found at http://english.glendale.cc.ca.us/roots.dict.html or have them bookmark it on their computers. Encourage students to use the list as a quick way to unlock science terms like *neophyte* (little plant—*neo* means *new* and *-phyte* means *plant*) and *teleconference* (talking from far away—*tele* means *far away* and *confer* means to *talk*). This dictionary helps with meanings of everyday words, too, like *Florida*, which traces its origins to *flora* (*flower*) and helps unlock the meanings of *florid* (*gaudy*) and *floriferous* (*flowery* or *showy*).

- Help students use this type of dictionary to learn derivations of words they already know. For example, *Arctic* comes from the Greek *arktos*, which means *bear*, and Antarctica means the converse or opposite, no bears.

- Encourage students to create word trees of often-used roots (see Figure 2) to involve them in using dictionaries to find related multisyllabic words. In this case, print a prefix on each branch, and students can add appropriate words to each one as they find them in a dictionary or glossary, on the Web, or hear them used in the media.

SELECTED PROFESSIONAL RESOURCES ON VOCABULARY TEACHING

Allen, J. (1999). *Words, words, words: Teaching vocabulary in grades 4–12.* Portland, ME: Stenhouse.

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

Blachowicz, C., & Fisher, P.J. (2002). *Teaching vocabulary in all classrooms* (2nd ed.). Upper Saddle River, NJ: Merrill.

Brand, M. (2005). *A day of words: Integrating word work in the intermediate grades* (VHS or DVD). Portland, ME: Stenhouse.

Brand, M. (2004). *Word savvy: Integrating vocabulary, spelling, & word study, grades 3–6.* Portland, ME: Stenhouse.

Bromley, K. (2002). *Stretching students' vocabulary, grades 3–8.* New York: Scholastic.

Ganske, K. (2000). *Word journeys: Assessment guided phonics, spelling, and vocabulary instruction.* New York: Guilford.

Literacy study group: Vocabulary module. (2002). Discussion guide, articles, and books on vocabulary. Newark, DE: International Reading Association.

Murray, M. (2004). *Teaching mathematics vocabulary in context.* Portsmouth, ME: Heinemann.

Nagy, W.E. (1988). *Teaching vocabulary to improve reading comprehension.* Urbana, IL: National Council of Teachers of English; Newark, DE: International Reading Association.

7. Direct instruction in vocabulary influences comprehension more than any other factor. Although wide reading can build word knowledge, students need thoughtful and systematic instruction in key vocabulary as well (Blachowicz & Fisher, 2004; Graves & Watts-Taffe, 2002; Nagy,

Figure 2
A word tree
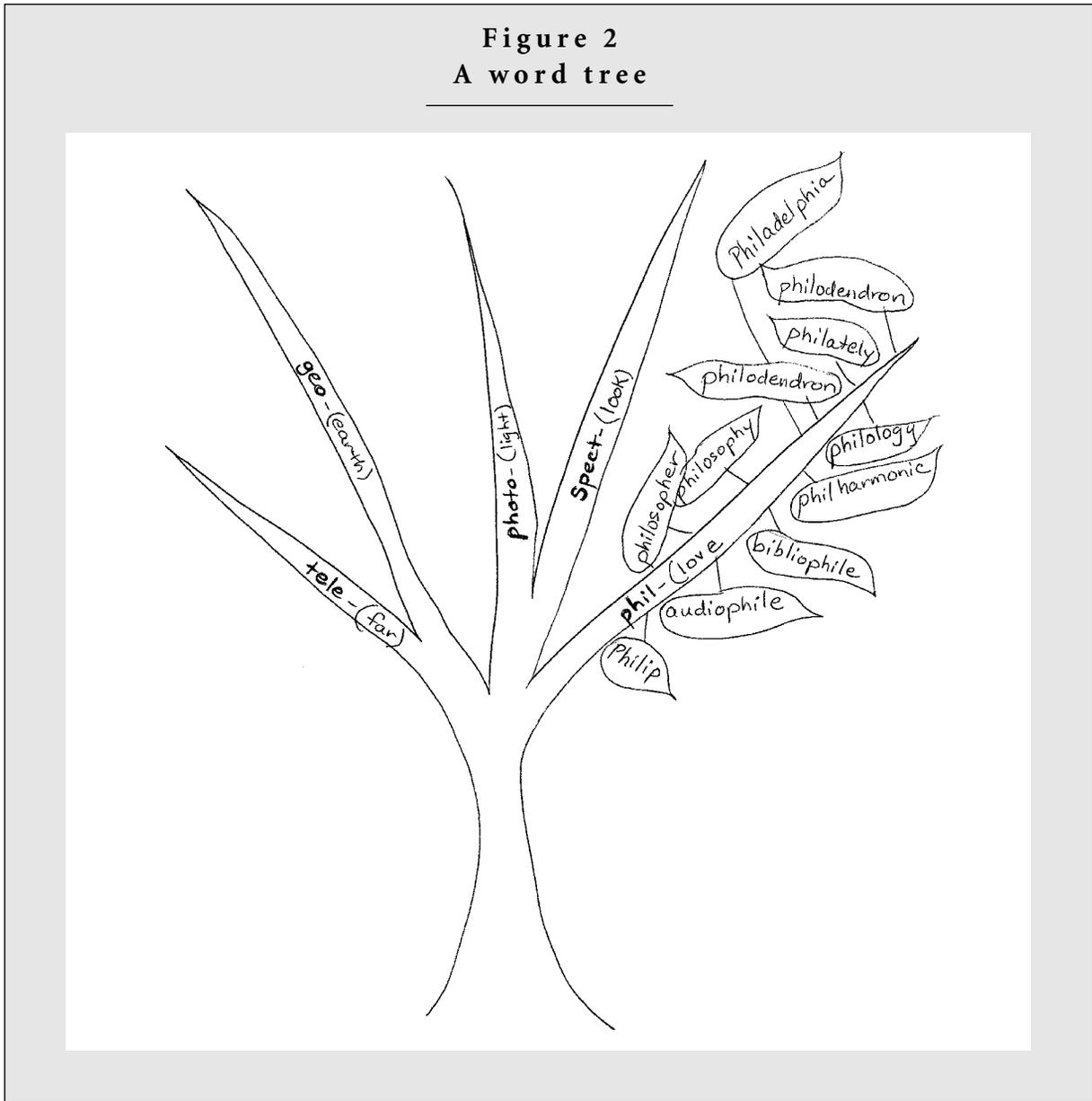
1988). Instruction that engages students in the meanings of new words and their letter, sound, and spelling patterns promotes more effective word learning than just analyzing context (Juel & Deffes, 2004). As students learn new words, they can use them to learn other new words and build independent word learning strategies (Baumann & Kame'enui, 1991; Nagy). Things to do:

• Explicitly teach students new vocabulary focusing on both meaning and word struc-

ture. Make connections with other words whenever possible because it helps build from the known to the new. For example, when you teach the word *counterrevolutionary*, relate it to *revolt*, *revolution*, *act*, and *counteract* to build on what students may already know.

• Have students keep vocabulary notebooks in which they illustrate a new word, write a paraphrased definition, and use it in a sentence. The vocabulary notebook provides a

record for review before a test and a source for the correct spelling of content terms.

- Teach students to "chunk" multisyllabic words like *prestidigitation* (sleight of hand, trickery) to help them develop the habit of unlocking new words independently.

- Analyze a classroom test with students (or the practice version of a standardized test they have taken recently or will soon take). Highlight or make a list of key vocabulary from the directions and from the reading selections that students must know to answer questions. Look at specific questions that pertain directly to vocabulary knowledge and show students how to locate the word in the selection to determine its meaning in context.

- Have students creatively peer teach new words to one another in small groups before they begin a chapter or unit and encourage them to present their words in several ways (visually and verbally).

8. Teaching fewer words well is more effective than teaching several words in a cursory way.
Science, math, and social studies material contain many conceptually dense terms, and most students need instruction in this technical vocabulary (Vacca et al., 2005). While it may be tempting to introduce the entire list of new vocabulary from a chapter in a content text, it is more effective to teach fewer words well rather than several words less well (Robb, 2000). Few teachers realize that they can occasionally teach vocabulary during or at the end of a lesson (Watts, 1995). Things to do:

- Teach struggling students and English-language learners no more than three to five new words at a time because they might have difficulty retaining more than that. Teach words students will need to know in the future and teach only words related to the main idea of new material.

- Call attention to important terms that appear in bold or italicized print. Show stu-

dents that the meaning often follows the term or appears in the glossary at the back of the text.

- Teach most new words before reading to enhance students' comprehension. Occasionally teach new words after reading to allow students to use their own word-attack skills independently or to let you know which words they had trouble with so you can teach these words.

9. Effective teachers display an attitude of excitement and interest in words and language.
Teachers who are curious and passionate about words inadvertently share their enthusiasm with students, and it becomes contagious. These teachers possess word consciousness (Graves & Watts-Taffe, 2002). They appreciate out-of-the-ordinary, powerful, and appealing word use. They are excited about words and language. They model, encourage, and engage students in wordplay, adept diction, and independent investigations into words to build students' word consciousness. Things to do:

- Reflect on your vocabulary teaching. Are you excited about language and teaching or using new words? How do you most often teach new words? Are there other, more effective ways?

- Educate yourself about best practice vocabulary teaching. Talk with colleagues about how they teach vocabulary and what works for them. Read articles and books for new ways to teach vocabulary.

- Share your excitement with students about the fascinating nature of words and language by providing students with a Word of the Day. Find these at Wordsmith (www.wordsmith.org/awad/index.html), which introduces a word a day (around a weekly theme) with definition, pronunciation, etymology, usage, and a quotation. (Students can subscribe and receive it automatically.)

• Word walls aren't just for the elementary grades. Add several new content terms each week to a word wall of science, math, or social studies to provide standard spellings for student writing. As terms are used in class discussions, visually reinforce each word by pointing it out on the word wall.

Final thoughts

"The good intentions of conscientious teachers concerning traditional vocabulary instruction have often had pernicious side effects..." (Greenwood, 2004, p. 34). Overuse of dictionary hunting, definition writing, or teacher explanation can turn students off learning new words and does not necessarily result in better comprehension or learning. Word learning is a complicated process. It requires giving students a variety of opportunities to connect new words to related words, analyze word structure, understand multiple meanings, and use words actively in authentic ways. The goal of vocabulary instruction should be to build students' independent word learning strategies that can empower them for lifelong learning. This requires teachers who are passionate about words and language, who immerse their students in language, and who provide direct instruction that is thoughtful, intentional, and varied.

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