10

A Comprehensive, Interactive Approach to Vocabulary Development

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"In our classroom, we call new vocabulary words from the story we're reading 'Big Dog Words.' These words are placed on the wall with a photocopy of the front cover of the story. Students get to pick any of the words and use them as they act out a scene, whenever we have a spare minute. We call them Big Dog Words because you certainly must feed a big dog often, just like you must 'feed' your words, or use them often, to make them grow. I've done this for 2 years with the same group, because I taught third grade and then fourth grade the next year. The kids still remember the words from last year. This is not my idea, I picked it up at a conference—and I love it!"

WHAT IS EFFECTIVE VOCABULARY INSTRUCTION? WHY TEACH VOCABULARY? WHAT DOES THE RESEARCH SAY?

For decades, it has been known that insufficient vocabulary and limited ease with language is one of the major reasons more than 30% of the students in grades 3 and beyond struggle with reading comprehension, experience the "fourth-grade slump" and eventually drop out of school.[1] As a teacher, you will address these concerns daily. This chapter provides the rationale for teaching vocabulary and presents effective and engaging ways to select, teach, and assess vocabulary as part of any lesson, infused into any subject area. This chapter also provides suggestions for increasing each student's "word consciousness" and "morphological awareness" (special kinds of linguistic insight). The objective is to teach vocabulary in ways that increase your students' reading comprehension and overall academic achievement and to motivate them to learn more new words and to read more.

Objectives: After studying this chapter, you will be able to do the following:

1. Explain the importance of teaching vocabulary.
2. Utilize a method for assessing vocabulary knowledge.
3. Choose the best words to teach to your students.
4. Implement effective strategies when teaching.
5. Model the use of semantic maps.
6. Explain how to foster word consciousness with students.
7. Define morphology and explain how it supports vocabulary growth.

It has been well-documented that vocabulary knowledge is related to reading comprehension, vital to success in school.[2] The National Research Council and the National Reading Panel determined that vocabulary development is essential for students in the early grades, yet little time is devoted to vocabulary instruction.[3] Teachers may assign a list of vocabulary words (which is not an effective practice if the teacher relies on students to learn the list independently), and teachers may administer spelling tests, but teachers rarely spend sufficient time on teaching vocabulary. This is problematic, because a student's vocabulary knowledge in first grade predicts his or her ability to read with comprehension 10 years later, in high school.[4] Students with a restricted vocabulary in primary grades typically show declining reading comprehension as they get older, unless teachers intervene early.

In an insightful study, researchers Betty Hart and Todd Risley visited young children of varied socioeconomic status at home, tape-recorded their interactions with their caregivers for one full hour each month for 2.5 years, and tallied how many words and what kind of words the children heard. They found that the children of poor or working class families, whose parents had little education beyond high school, heard significantly fewer words than the children of the more financially and educationally advantaged parents. The vocabulary differences were vast. By age 3, the recorded spoken vocabularies of the children from the professional families were larger than those of the *parents* in the financially disadvantaged families. This study clearly illuminated vocabulary inequalities that already exist in kindergarten—hence the title of Hart and Risley's book, *Meaningful Differences in the Everyday Experience of Young American Children*.[5]

There is another rationale for teaching vocabulary: The student who reads fluently and frequently will rapidly learn hundreds of new words, independently. An average student in middle school might learn several thousand new words each year, simply by reading at school and at home.[6] In contrast, the student who does not read often or cannot read well learns fewer words—unless you intervene with vocabulary instruction.

But, it might be said, for the good readers, let us just rely on independent reading and let them learn words from context clues. Indeed, many words are learned from context, so this is an important venue for vocabulary growth. However, useful and clear context clues are not always provided. In one investigation of varied school texts, context provided helpful clues for only 5%–15% of the unknown words encountered.[7]

Last, and yet perhaps first, vocabulary is taught to create a learning community that enjoys language and appreciates its power. During vocabulary lessons, and all day, students are taught to use words to help, not to hurt. Noted linguists Denning, Kessler, and Leben provided a good metaphor for this, in their text *English Vocabulary Elements*:

> Ultimately, an enhanced and enlarged vocabulary, like any part of the complex phenomenon called language, is a multipurpose tool. Like a hammer, it can be used either to build or to injure. The individual is responsible for the use to which it is put. (Denning, Kessler, & Leben, p. 182)[8]

WHAT WORD-LEARNING SKILLS SHOULD STUDENTS KNOW, PRE-K–6?

Teachers must consciously extend the vocabulary knowledge of their students by using rich vocabulary themselves and teaching new words, directly and indirectly. There is no limit to which words or the number of words students can learn, as long as the students have the conceptual knowledge to understand the meaning of the word. Recently, a toddler was explaining the difference between rudders on an airplane and the functions of the yaw! One kindergarten teacher worried that she used too many "big" words with her students. However, she continued to do so, and by the end of the year, her students were using words such as *graceful, admirable, doubtful, puzzling,* and *consequently*. Teachers must expect their students to understand and use myriad new words every day.

BOX 10.1. UNIVERSITY OF OREGON WEB ADDRESS

http://reading.uoregon.edu
Teaching vocabulary: http://reading.uoregon.edu/big_ideas/voc/index.php

The Center for Teaching & Learning at the University of Oregon provides suggestions about what students should learn about vocabulary in each grade (Box 10.1). The Big Ideas in Beginning Reading documents contain curriculum maps for grades K–3, outlining skills for each of those grade levels, including vocabulary instruction.[9]

The Common Core State Standards[10] describe what students are expected to learn at each grade level. The expectations for vocabulary acquisition and use can be found at http://www.corestandards.org/the-standards/english-language-arts-standards/language-standards-k-5/. For example, during kindergarten students learn new vocabulary words through listening, talking, and reading. Students learn to name pictures of common concepts, use words to describe location, size, color, and shape, sort pictures of words into basic categories, and learn new vocabulary through stories. Kindergartners must learn that words may have more than one meaning, as in *rose*, the flower, and *rose*, the verb. They are also expected to learn basic prefixes and suffixes.

By third grade, students increase vocabulary through independent reading, use a dictionary, and use knowledge of many prefixes and suffixes to help determine word meaning.

Beginning in fourth grade, students are expected to gradually become more independent word-learners. With repeated modeling by the teacher, they learn how to infer meaning by combining context clues with *morpheme* clues (prefixes, suffixes, and roots), using strategies described later in this chapter. As students advance, they gradually become more adept at using bound and digital reference tools, including a dictionary and a thesaurus.

HOW DO YOU ASSESS VOCABULARY GROWTH?

Researchers and teachers have struggled with the best ways to assess the effectiveness of vocabulary instruction. Students must be able to understand and use the words throughout their lives, not memorize definitions for a test and promptly forget them. So, how will vocabulary growth be assessed? You will use several different types of assessments, and you will detect partial knowledge.

A perceptive researcher, E. Dale, created one informal assessment many years ago. His tool still provides students and teachers with a measure of how well they know words.[11] Using a tool like the one shown in Figure 10.1, students evaluate their own understanding. Students rate words on a scale from 1 to 4 based on their knowledge of the word, from, "I have never heard of the word" to "I have a deep understanding of this word." Students who indicate the highest level of understanding are expected to explain what the word means and to use the word in a sentence. Dale's scale can be adapted and used to survey knowledge before and after vocabulary study. Students monitor their growth and are proud when they have increased their knowledge! By using Dale's scale, students and teachers are reminded that word learning is a growth construct, meaning we continue to "grow" our vocabulary, all our lives, through many encounters with the word in varied context. Learning vocabulary is not like learning the alphabet, which can be fully mastered in school. Understanding of vocabulary—even words and phrases already known—continues to become more multifaceted throughout our lives.[12] Partial knowledge of a word gradually becomes more complete. The detection of partial knowledge is important to assessing and learning vocabulary. As a pre-teaching tool,

1	2	3	4

Legend: 1) I have never heard this word before. 2) I've heard this word before, but I do not know what it means. 3) I know a little about what this word means, but I need more context (a sentence at least). 4) I could teach this word to someone else; I know its meaning and can pronounce it.

Figure 10.1. Vocabulary knowledge rating scale. (From Dale, E. [1965]. Vocabulary measurement: techniques and major findings. *Elementary English, 42*, 895–901.)

this type of self-assessment provides information useful for planning lessons, helping decide which words to focus on and how much time to spend on each word. If used before and after a unit, students see growth; success is highly motivating. This scale allows students to play a deeper role in their own learning.

Let us use Dale's scale now. As shown in Figure 10.1, fold your paper into four columns, labeled 1, 2, 3, and 4. Referring to the legend, insert the following words in the appropriate column: *myriad, hubris, sagacious,* and *morphology*. Do not say the words aloud. Warning: If a word is written in the fourth column, you may be asked to explain it!

Tally your assessment, giving yourself one point for each word in the far-left column, two points for each word in the second column, etc. Record your total. When you complete this chapter, you will have the opportunity to take this assessment again. Your knowledge will have progressed along Dale's scale.

Dale's scale is sound; however, a variety of assessments must be used. Here is how two researchers have successfully measured vocabulary learning[13]: Ask the class to write the taught word in a sentence, and score each response on a range from 0 to 2 points. Score 2 points if the word is used correctly, reflecting mastery (*The baby felt drowsy, so we put him to bed*). Score one point if the sentence demonstrates only partial understanding (*Drowsy is how you feel sometimes*). Score 0 points if the sentence reflects minimal or no understanding of the word (*I was drowsy, but you saved me*). You may also ask students to use two taught words in the same sentence (*The drowsy kitten went to sleep in the cottage*). By looking for partial knowledge instead of using a right–wrong scoring technique, you are more likely to find growth, which is motivating. Students note the growth and feel **sagacious**, insightful, and wise.

Students learn **myriad** words even in primary grades, so assessment starts early. Some words are fairly hefty! Consider the preschooler who can name several *dinosaurs*, state whether they are *carnivores* or *herbivores*, and describe their *ferocious, predatory* behaviors, demonstrating an immense capability to learn **myriad** new concepts. How to assess word learning in early childhood? Children can sort word or picture cards, create sketches, or act out phrases.

Also, children could respond to a spoken sentence. You say a word and a statement aloud, and the students listen. When asked if the sentence makes sense and sounds right, students write *Yes, No,* or *Partly,* as shown below (or use Pinch Papers, discussed later in the chapter). Repeat if needed. As with all new types of tests, model a few examples, thinking aloud to make your reasoning clear. Discuss the answers, and encourage students to explain their thinking, valuing their thought process.

drench	If something is *drenched*, it is very wet. (yes)
slumber	If I am *slumbering*, it means I am sleeping. (yes)
gloomy	If a room is *gloomy*, it seems very dark and very scary. (partly)
honest	A person who is *honest* likes to tell a lie. (no)

HOW DO YOU TEACH VOCABULARY EFFECTIVELY, EFFICIENTLY, AND IN A MANNER APPROPRIATE TO YOUR STUDENTS AGE/GRADE?

A Comprehensive Approach to Vocabulary Learning

After examining the available research, foremost vocabulary researcher Michael Graves concluded that four different but interconnected components are necessary to optimize vocabulary growth across the school year. Another researcher carried out his plan with fifth graders for nearly a full school year, resulting in better-than-expected vocabulary growth. The "Four-Part Vocabulary Plan" created by Dr. Graves is outlined below, written as "to do" statements for the teacher.[14]

1. Provide rich and varied language experiences: Create a language-rich, highly verbal learning atmosphere. Read aloud to the class, engage in poetry and drama, encourage elaborative discussions and debate, and plan for topic-pertinent peer conversations. Promote listening, speaking, reading, and writing. Encourage students to read daily, from fiction and nonfiction. Help students find reading materials that align with their interests.
2. Teach individual words: Select a few words to teach carefully, as time is limited. Teach the words with explicit and cognitively engaging methods. Provide students with two key essentials: a learner-friendly definition and context. Form word associations, creating networks of related words. Provide examples and nonexamples of the meaning, as in, "That music is *remarkable*, but this pencil is not *remarkable*." Revisit the words over time in differing context, providing multiple and varied exposures.
3. Teach word-learning strategies: Teach students how and when to use a dictionary and a thesaurus. Also, teach advancing readers how to infer the meaning of an unknown word, by examining context clues as well as word parts: prefixes, suffixes, and roots.
4. Foster word consciousness: Help students develop a love for language; kindle interest and engagement with words. Help them appreciate a word or phrase as uniquely useful, much as they might perceive the varied shades of blue in their large box of crayons. Help them recognize the power of words. Model curiosity with words, phrases, and word origins.

Because understanding the vocabulary of a given passage enhances comprehension of the passage, this chapter focuses primarily on the second component in Graves' comprehensive plan, describing several ways to teach new words. However, all four components are important; therefore, the chapter closes with suggestions relative to the other three components. As a teacher, you will incorporate each component on a regular basis.

Choosing Words to Teach: Teacher Discretion and Published Word Lists

There has not been definitive research about which specific words students should know at each grade, although some researchers have attempted to create lists to help guide teachers. Three lists are mentioned in this section. Researchers created word lists to optimize learning and teaching. It would be a misuse of research to distribute excerpts from a word list for weekly rote memorization. Effective, memorable vocabulary instruction includes context, a student-friendly definition, and engaging discussion.

Because time is limited, you must be judicious in selecting words to teach. Isabel Beck and her colleagues have developed a system to help teachers choose words to teach directly.[15] They organize words into three somewhat flexible levels or tiers.

Tier One words are words that most children know already, so you should not have to spend time teaching them, unless you are teaching English language learners. Examples of Tier One words for a student in first grade might include *baby, run, clock, happy*.

Tier Two words are the words that students will see repeatedly and in nearly every subject area. Some examples include *final, former, exhausted, demonstrate, analyze, distribute, emphasize, complete, generate,* and *frequently*. These are academic words, scholastic words. In many cases, there is a simple Tier One word for a more academic Tier Two word. For example, typically *get* is learned before *obtain*. An applied linguist, Averil Coxhead, listed the most common academic words for older students (grades 6–college), including English language learners. Her *New Academic Word List*[16] is available online and is discussed on the web site *Vocabulogic*. *Vocabulogic* is written for teachers by reseachers, to bridge the gap between research and practice, and to bridge the verbal divide among students.[17]

Tier Three words are specific words related to a particular subject area or unit of study, such as *integer, tundra, hieroglyphics,* and *photosynthesis*. This type of word is not used broadly, across varied types of content. Students need to have an in-depth understanding of these words only if it is necessary for understanding the unit or the passage. Otherwise, a quick explanation is sufficient. For example, if the word *epidermis* appears in the text and your instructional objective is *not* deep understanding of the cellular components or kinetics of the epidermis, you could easily provide a quick explanation, "The epidermis is the outer layer of skin" and move on.

Another rationale for word selection is based in morphology. If a word has a root that is shared by several morphologically related words, it might be worth teaching, along with its relatives. For example, it makes sense to teach the word *form* and to show how it is morphologically related to *formation, reform, reformation, formulate, formulaic,* etc.

It may seem obvious, but words to teach are also selected based on student knowledge. If there is a word or phrase that only a few students in the class do NOT know, it is time for differentiated instruction. Andrew Biemiller has shown that elementary school children learn words in a fairly typical order, and that they move along from partial knowledge to a more complete knowledge of the same word (see his list in *Words Worth Teaching*).[18] At the web site *The First 4,000 Words.com*, Michael Graves has listed words that are most frequently used in primary grades—a good place to start.

Effective Vocabulary Strategies

Think for a moment about how you learned vocabulary. Most of you would report that you were given a list of words, typically not related to anything you were reading or studying at the time, and were asked to copy the word, copy the definition from the dictionary, and use the word in a sentence. Now, consider how many words that you "learned" this way that you remember and use today. How much interest did that exercise promote? Teaching vocabulary primarily—or only—through dictionary or glossary study is not effective, especially for students with learning difficulties, at-risk readers, and English language learners. Likewise, assigning a list of words to be studied and memorized each week, with minimal use in speaking or writing and with minimal instruction, is not likely to significantly and positively effect vocabulary growth and will probably diminish motivation.[19] Logically, it follows that copying

BOX 10.2. VOCABULOGIC: Bridging the Verbal Divide

http://vocablog-plc.blogspot.com/

words repeatedly and alphabetizing words should not be expected to promote vocabulary breadth or depth. Neither should we hope to see expressive or even receptive vocabulary expand as a result of completing word-search worksheets.

THREE OVERARCHING QUALITIES OF EFFECTIVE VOCABULARY INSTRUCTION

How then, should vocabulary be taught? Bill Nagy describes three qualities of effective vocabulary instruction: integration, repetition, and meaningful use.[20] As you read through the models and activities provided in this section, note which qualities of effective vocabulary instruction are applied with each activity.

1. Integration: Link the new learning with something already known, so it has a cognitive hook—a place to hang its hat! Mix together and combine new concepts with old. Integrate *famished*, for example, with the known synonym *starving*. Contrast *famished* against antonyms, too. Connect it with concepts, like *famine* and *drought*. Build networks of related concepts.
2. Repetition: Provide multiple and varied exposures to the word in differing contexts so the student does not have to think about it anymore. The word must become an automatically recognized concept, freeing the mind for higher-level thinking. Depending on the learner and on the word, more than 20 exposures may be required before the word is remembered.[21] If you want students to freely say the word aloud, without fear of mispronunciation, teach them how to pronounce it. Have them say it aloud several times. That is another form of repetition.
3. Meaningful use: Use the word in varied applications, or context. Draw associations, make connections, contrast and compare words and concepts, etc. The more one thinks about something, the more likely it will be understood and remembered. If one thinks about something in myriad ways, there are **myriad** ways to remember it!

Anita Archer, a prominent educator, uses a mnemonic to help teachers remember these three principles. The photographs illustrate the hand motions for her mnemonic. Try it! The three principles of effective vocabulary instruction are 1) multiple exposures, 2) with deep understanding, 3) connected to what they know.[22]

Explicit Methods for Teaching Words

In addition to the three general qualities described above, there are several specific elements that are often included in a lesson. When you teach vocabulary, include the following two elements, as applied in student-friendly language to the word *drenched*.

1. Context, including spoken and printed context
2. A student-friendly definition (not taken from an academic dictionary)
   - Example: The word *drenched* means very, very wet. Dripping wet! Little Bear got drenched in our story, didn't he?

The two elements described above have been found to be essential aspects of memorable vocabulary instruction. However, you can do even better, especially for your at-risk readers. What else could be added to our lesson? Learners need details; they need to think and make decisions; they need multiple and varied exposures to the word.

(The *drenched* lesson continues):

- Provide examples and nonexamples, so students can tighten their understanding:
  - An example of *drenched* is how wet I am if I am stuck in a downpour for 10 minutes without an umbrella.
  - A nonexample of *drenched* is how wet I am if I run out to the mailbox for a moment when it is sprinkling.
- Built-in or embedded quiz, often in spoken or oral language: If I say something that describes *drenched*, say, "You got so drenched!"
  - I fell into the pool, with my clothes on.
    - o Students: "You got so drenched!"
  - I quickly ran through the sprinkler, but only once.
    - o Students: "You did not get drenched."
- Student-generated context
  - Tell your neighbor a very short story about a time you were *drenched*. Use the word *drenched* in your story. Listen to your neighbor's story, too.
- Fold old words into new words/concepts:
  - Last week, we learned *spunky*, and this week we learned *drenched*. Think of a way to use both words in the same sentence.
  - What are some synonyms that mean nearly the same thing as *drenched*?
  - What are some antonyms that mean nearly the opposite of *drenched*?
- Distributed practice:
  - Review vocabulary words in varied spoken and/or printed context over time.
  - Use taught words when speaking to the class, whenever appropriate ("Put up your hood everybody, or you will get *drenched*!").
  - Gradually, lengthen the time interval between word rehearsals.

TEACH WORD-LEARNING STRATEGIES

This is the third component in Michael Graves' four-part framework. The first component is creating a language-rich learning environment, including a lot of reading and discussion. The second component involves directly teaching the meaning of carefully selected words. If a teacher's goal is to teach the meanings of a group of words necessary to comprehend a given text, it is best to teach the meanings directly. However, it is impossible to directly teach all the words in a text, so you must teach older students how to "figure out" what an unknown word might mean when reading independently. Thus, Graves' third component involves teaching students how to become independent and life-long word learners. Depending on the grade level, teach students to use a dictionary, a thesaurus, context clues, and morphological clues. Morphology, followed by morphemic analysis in context, is described here.

Morphology. Morphology, or structural analysis, refers to the study of word formation. It involves learning about word structure, including the study of morphemes, such as prefixes,

suffixes, and roots. Morphemes are indivisible units of meaning and the building blocks for words. Morphologically complex words contain more than one morpheme, but simple words contain only one: The simple word *cat* is one morpheme, but *cats* contains two morphemes, *cat* and the suffix *–s*. *Unbreakable* is complex because it has three morphemes: *un–, break, –able*. Through brief **morphology** lessons, students are taught to look within words, seeking out recognizable morphemes to better read, spell, understand, and remember words. Students work with morphological families—words that share the same root and are semantically similar, such as *act, action, active, react, enact*. According to Nagy and Anderson, school texts contain more than 88,500 morphological families.[23] Students are taught to look across families of morphologically related words, finding similarities and differences. For example, in fifth grade, it might be asked, "What is similar about *secret* and *secretary*? How are they different?" In second grade, it might be asked, "What is similar and different about *cartoon, cartoonish*, and *cartoonist*?" Students are taught the most common base words and roots, those that form the largest morphological families. For example, from the base word *sun* comes many words: *sunny, sunnier, sunniest, sunshine, suntan, sunscreen, sunning*, etc. Likewise, from the Latin root *port*, meaning "to carry," one can derive *import, export, deport, transport, support, report, porter, portable, portability*, etc. As teachers, you will help students learn to see words as part of a network of related concepts. As your students develop this type of linguistic insight, called *morphological awareness*, their vocabulary will grow. Vocabulary and comprehension are linked to **morphological** awareness.[24]

By age 10, morphological awareness appears to be a better predictor of reading skill than phonological awareness.[25] As children learn to read, it is important for them to eventually examine both the phonology of a word, looking at the sound–letter relationships, as well as the morphology of a word, looking for units of meaning. For example, you might teach first or second graders to decode *teacher, preacher, painter*, and *singer*, and at about the same time you would teach them that the letters that represent the sound /er/ also represent meaning: In the aforementioned words the suffix *–er* denotes "one who." It is helpful to point out to students how morphemes and phonology overlap and that morphemes differ from syllables. Morphemes are units of meaning, but syllables are units of sound/spelling. *Purple, magenta*, and *giraffe* have multiple syllables but only one morpheme.

Prefixes and suffixes are morphemes. There are two types of suffixes, inflectional and derivational. Inflectional suffixes include *–s, –ed, –ing, –er, –est*. When added to a base word, an inflectional suffix can change the form of the word, but they typically do not change the part of speech, nor do they create a new and different word. For example, *horse* and *horses* are both nouns, despite the addition of the suffix *–s*, and they are the same word, just in different form.

In contrast, derivational suffixes have the potential to change the part of speech of the word. When a derivational suffix is added, a new word is created, not just a form of the old word. For example, the verb *type* is changed to a noun when the derivational suffix *–ist* is added: A *typist* is "one who types." Some suffixes can serve as either inflectional or derivational. Consider the suffix *–er*: In transforming the adjective *cold* to the comparative adjective *colder*, this suffix is inflectional, but when added to *heat* to create *heater*, it is derivational, creating a new word and transforming a verb to a noun. It is context that helps us put the entire package together. Context is part of the study of morphology.

The structure of compound words also needs to be understood. A compound is created by joining two or more words to create a new concept. Connected compounds include *songbook, blueberry*, and *placemat*. Compounds can also be disconnected, with a space between the words, as in *redwing blackbird, polar bear*, and *greenhouse gasses*. Finally, some compounds are hyphenated, as with *self-esteem, jack-in-the-box*, and *son-in-law*.

By second grade, average readers typically understand, subconsciously and intuitively, that for many compounds, the final word—the right-most word of the compound—indicates the category. So, a *doghouse* is not a type of dog, but a type of *house*, as with *birdhouse* and *dollhouse*. However, a *housedog*, ending with *dog*, is a type of dog, as is a *bulldog*. There are some compounds that simply must be memorized, because the right-most word does not describe the category: A *pickpocket* is not a type of pocket. To understand *pickpocket*, context needs to be examined, or dictionary should be used. If children do not understand how compound words work, teach them, by discussing the meaning of a variety of compounds.

The Outside-In Strategy: Inferring Word Meaning Independently

By explicitly teaching students a new word teachers "give them a fish," but they must also be taught "how to fish" for a lifetime. Beginning in grade 4, teach students how to infer word meaning from context clues and from morphological clues, via the *outside-in strategy*. Researchers have shown that, by sixth grade, just more than half of the unknown words students encounter in school texts can be resolved—to some extent—by merging contextual and morphemic information.[26] This objective is worthwhile, but not easily or quickly achieved.[27] An important aspect of learning to independently infer word meaning is self-confidence. Students must be encouraged to look for clues and then "go with the gut" or "take a shot at it" until they begin to believe in themselves. As students experience success, they will enjoy a rising sense of self-efficacy, which is highly motivating.[28]

The Outside-In Strategy

1. First, look <u>outside</u> the word, at context clues in the neighboring words and sentences.
2. Then, look <u>inside</u> the word, at the word parts (prefix, root, suffix).
3. Next, re-read the entire context, keeping the meaningful word parts in mind. Make an inference: What do you think the word might mean?

You might model this strategy with a "think-aloud." Reveal your reasoning by speaking your thoughts aloud to the class. Use a short text excerpt to model the strategy. Select a word that has common affixes or roots. Also, show cases where this strategy will not work. Learning when to apply a strategy is important.

Fostering Word Consciousness

Development of word consciousness is the fourth component in Michael Graves' four-part framework. Word consciousness refers to an awareness and appreciation of the power of language, especially of words and phrases, as they are situated in context. Students who are word conscious notice whether a word or phrase is new or unknown, majestic, scientific, old-fashioned and archaic, idiomatic, figurative, whimsical, silly, very long, very short, etc. Also, word consciousness includes an awareness of *connotations*, the emotions a word prompts. Words can incite positive, negative, or neutral feelings. Many words and phrases are neutral, but some connote judgment, for example. Would you rather be described as *relaxed, inactive*, or *lazy*? Which word has a more positive connotation? An important aspect of word consciousness is understanding the pragmatics of language, or the language that is appropriate to use in varying social circumstances, such as while playing with their friends versus talking with the principal.

Teachers need to help students become aware of words, turned on to language and tuned in to words; help them become word-savvy, understanding the difference between an academic word like *demonstrate* and an everyday word like *show*; teach them to understand when the use of formal language is appropriate and when slang is more suitable. Use poetry to help students become picky about words—to value each word for its uniqueness and nuance. Use meaningful prose to foster an interest in words and an awareness of their utility and power. For field-tested suggestions for developing word consciousness, refer to *The Word Conscious Classroom* by Scott et al.[29]

Teaching English Language Learners

"I have a kindergarten student in my class where the primary language spoken at home is Korean. The mother expressed a concern that when she reads aloud to him she is not able to explain the English vocabulary from some books and she would like to know how she could help him improve his vocabulary. We do a lot with vocabulary at school through our reading program, but I did not know quite how to respond."

This email illustrates the challenge for English language learners, a challenge that teachers, parents, and students experience daily—a challenge that you will likely have to address, too. This teacher was able to send home the "story summaries" provided by the reading curriculum publisher in several languages, including Korean. Most reading programs also include translations for key vocabulary, certainly in Spanish, and perhaps in other languages. This teacher was also able to use free online language translation tools to help the parent and child learn together at home.

What can teachers do to help each English language learner master English during the school day? First, allocate extra TIME for vocabulary instruction, especially for oral language development—time for teacher-guided speaking and listening. Researchers have timed how long teachers spend directly teaching vocabulary using oral language, not copying from a dictionary or completing worksheets. Sadly, the average amount of time spent on verbalized and vocalized vocabulary instruction was only 6.7% of the class period in classrooms with no English language development block and only 2.6% in classrooms with such a block.[30] This is insufficient for English learners to gain competence and confidence with academic language.

In addition to allocating extra time and using publisher-created story summaries and/or translations with parents and students, use the following practices to help English language learners develop vocabulary. These suggestions vary by the student's degree of fluency with the English language. Researchers[31] have found that the following practices benefit English language learners:

- Teach words that are conceptually linked. For example, help learners develop a conceptual framework or schema for *transportation, car, truck, train, vehicle, locomotive, travel, route, map* and *delivery*. This includes focusing on synonyms and antonyms, providing examples and nonexamples. Avoid disconnected word lists.
- Prompt instructional conversations as two or three peers focus on a text or picture. Provide a semiscript, sentence starter, or framed sentence to enable conversations.
- Use pictures to teach word meaning, but link the pictures to speech and print.
- Role-play or enact the meanings of words, phrases, idiomatic expressions, etc.
- Model how to pronounce the word and listen to students pronounce it, providing them with explicit feedback (e.g., "Say the second syllable the loudest, in *assume*.").
- Link speaking, reading, and writing together, especially for academic words, making the learning more concrete. For example, for the academic words *approach, assume,* and *in addition,* have students say the word, learn the meaning, and then write them in sentences or a brief essay.
- Teach the conventions of English grammar and punctuation.
- Teach the most common prefixes and suffixes; develop morphological awareness.
- Teach older students to recognize *cognates*. Cognates are words from different languages that flow from the same root, usually Latin or Greek. Cognates share similarities in spelling and meaning. For example, the Spanish word *insecto* is a cognate for the English word *insect*. Cognates are more readily recognized in printed form, because speech moves too quickly. One web site that lists numerous Spanish–English cognate pairs is Latin America Links: http://www.latinamericalinks.com/spanish_cognates.htm

Finally, everything you have learned about teaching vocabulary concepts to native English speakers also applies to English language learners, but to greater extent. Review words, and review again in differing context—even more frequently and more deliberately. Provide even more practice opportunities, beginning with listening comprehension. Expect the transition from receptive language to expressive, productive speech, and writing to take longer than it might for native speakers of English. If you accept this challenge, and devote yourself to the goal, there is every reason to expect your language learners will make good progress, fairly comparable to your native speakers.

Activities and Strategies for Teaching Vocabulary

Let us look at some actual strategies and tools for teaching vocabulary. These activities provide students with many opportunities to hear, read, and use words in different contexts (multiple exposures). As you consider the following suggestions, keep in mind Bill Nagy's overarching principles of integration, repetition, and meaningful use and Anita Archer's three principles of multiple exposures, with deep understanding, connected to what they know.

There are myriad books available about how to teach vocabulary. One that is referenced often in this chapter and offers numerous ideas about how to teach vocabulary in meaningful and engaging ways is *Bringing Words to Life: Robust Vocabulary Instruction*, by Isabel Beck and colleagues.[32] Another book with excellent strategies is *Vocabulary Development* by Stephen Stahl.[33] These resources, as well as others listed in Appendix C, provide specific illustrations of how to teach vocabulary to diverse learners.

Reading Aloud to the Class

One of the best ways to expose students to new words is by reading books aloud to them. Teachers are encouraged to read to students in every grade level, but "read-alouds" are essential to primary grades. Even if you only read a book one time to young children, your effort is not wasted. According to a rather promising bit of research, children can learn a new word through only one exposure to it, as a process called "fast mapping" takes place.[34] Children mentally map the new word to a superficial and story-specific meaning—it is not deep understanding, but learning does occur.

Paraphrasing: If needed, when reading aloud at any grade level, teachers may embed a simple translation to ensure the students understand the book. This differs from directly teaching new words in-depth. Paraphrasing can occur as you read aloud. For example, "Once upon a time, a *maiden* [a young girl] lived in a tiny *village* [a very small town]." If you want to focus on directly teaching a new word, first, read the whole story without stopping. This provides context. After reading the story, teach the in-depth word, then re-read the story, asking students to listen for their new word.

Pre-teaching: For some books, you will need to pre-teach one or two key words. Often, an understanding of a specific concept is required so the reader can understand the text. For example, for the story *Elmer* by David McKee, the word *herd* is a key concept.[35] So, you will first show your students the picture of a herd of elephants and say, "This is a herd of elephants—a group of elephants that live together." Then read the story without stopping. After reading the story, or the next day, you can teach the word *herd* more fully; the students will have a better idea of what it means because you read the book to them. Pre-teaching key vocabulary becomes more essential as texts become more academic and challenging, but it is a practice that applies to every grade level and every subject area.

Extending: For children in preschool through first or second grade, experts suggest that you read the story once without stopping, then read the story again the next day, and then again a third day, to provide the repetition needed at that phase of development.[36] Each day, you teach a few more words from the story. On the fourth day, you review all the taught words.

On the fifth day, assess. Do not expect total recall after just a week of exposure. Do expect—and look for—partial mastery. Review words in the weeks to come.

Dialogic reading: As the name suggests, this involves having a dialogue with a small group of very young children while reading aloud to them. This method was designed especially for children of limited verbal skills who do not engage in rich discussions in the home. The dialogues are brief. For example, if reading *Green Eggs and Ham* by Dr. Seuss,[37] stop and point to a picture, saying, "Look! His arms are folded. Why do you think he is standing that way, with his arms crossed? What is he thinking and feeling?" Encourage children to respond, and insert the word *stubborn* into the dialogue. "He is feeling very stubborn!"

There are a number of activities that encourage vocabulary growth. Many of these activities are described and used in the teacher's guide for your comprehensive reading and language arts programs. Effective activities are listed below.

SEMANTIC MAPS

There are numerous kinds of semantic maps, or word maps. Semantic maps call for students to draw on their background knowledge and deepen their word knowledge. When using semantic maps, encourage students to work with a peer, discussing their thinking. Encourage them to refer to an applicable section of the text. Below, we describe several maps found to be effective tools for a range of students, including English language learners.[38]

Concept map: Let us use the word *scaffold* as our focus word (Figure 10.2). Write *scaffold* in the center box. Write a student-friendly definition under the word, such as "short-term, temporary support." Do not have your students guess what the word might mean. Guessing incorrectly confuses many students and takes up too much valuable class time. On the right side, ask your students to provide concrete examples of *scaffolds*, such as training wheels on a bicycle, crutches for someone with a broken leg, or a wooden structure to support painters working on a high story building. On the left side, give examples of what scaffold does not mean (for example, a permanent concrete wall, an office building, or a basketball). In the three boxes at the bottom of the concept map, ask students to provide examples of *scaffold*, as used in the context of the text they are reading. Because you are reading a book about teaching, brainstorm examples of scaffolds you might use to provide temporary support to students, such as modeling, breaking the task into small chunks, providing pictures, and providing additional opportunities for practice.

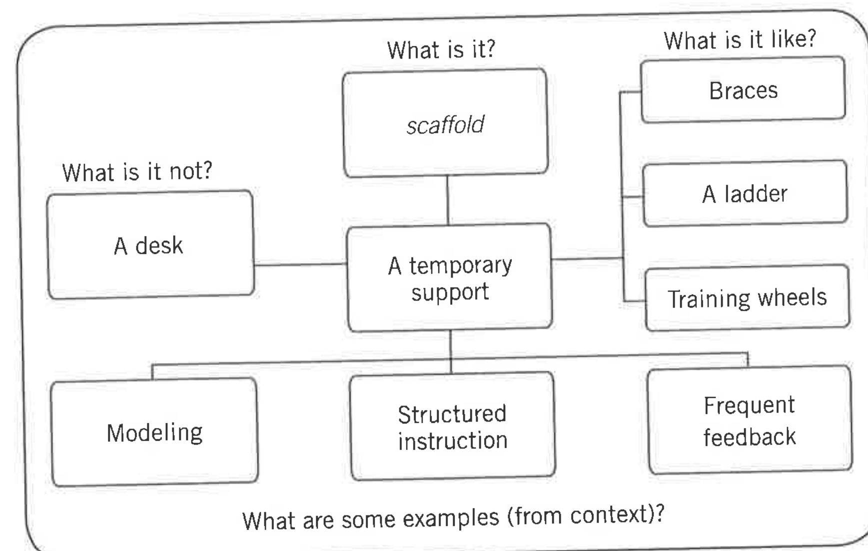

Figure 10.2. A word map. (From Schwartz, R.M., & Raphael, T.E. [1985]. Concept of definition: A key to improving students' vocabulary. *The Reading Teacher, 39*, 198–203; adapted by permission.)

Table 10.1. Semantic feature analysis for animal classification

	Fur	Feathers	Scales	Forest	Ocean	Desert	Plains
hare	+	–	–	+	–	+	+
snake	–	–	+	?	–	+	?
vulture							
coyote							
owl							
deer							
lizard							

From Heimlich, J.E. & Pittelman, S.D. (1986). *Semantic mapping: Classroom applications.* Newark, DE: International Reading Association; adapted by permission.

Semantic Feature Analysis[39]: This type of mapping should involve partner discussion and debate, as peers use their background knowledge and a textbook to analyze features and consider attributes. Have students place a plus sign (+) for a match, a minus sign (–) for a negative example, and a question mark (?) if there may be a match in special circumstances, which must then be described. An example of a completed map is shown in Table 10.1.

Four Square: The four square model (Figure 10.3) was developed by Frayer[40] and is easy and explicit. This tool prompts visual and verbal word associations. Have students create a four square grid. Write the targeted vocabulary word in the upper left box, the definition in the left bottom box, a personal association in the upper right box, and a nonexample in the lower right box. Encourage students to use the four square as a scaffold for spoken language.

Try making a four square diagram using one of the words targeted in this chapter: ***hubris, sagacious, myriad,*** or ***morphology***. An example using the word ***morphology*** is shown in Table 10.2.

Word Associations

Another way to increase vocabulary knowledge is to guide students to form associations among words and ask the students to explain the association. One such teaching routine is called VOCAB, developed by Gail Cheever.[41] Note each letter of VOCAB is linked to the steps of the routine.

VOCAB: A Routine for Vocabulary Development

Verify key vocabulary to be learned; put on individual pieces of paper/cards/sticky notes (see Figure 10.4) *(teachers should visually present the words and pronounce them).*

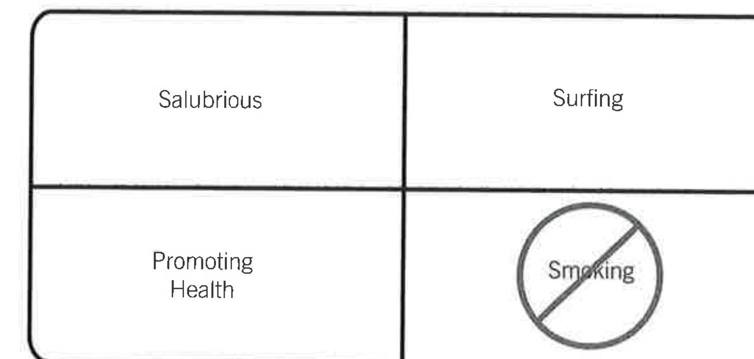

Figure 10.3. Frayer diagram. (From Frayer, D., Frederick, W.C., & Klausmeier, H.J. [1969]. *A Schema for testing the level of cognitive mastery.* Madison, WI: Wisconsin Center for Education.)

Table 10.2. Morphology

Word: Morphology	Examples: Prefixes, suffixes, roots, and other meaningful word parts Un+break+able ⇒ unbreakable (3 morphemes) cat =1 morpheme
Definition: Study of word formation	Nonexample: Phonemes Individual sounds in words cat = 3 phonemes/k/ /a/ /t/

Organize the words into a diagram that shows the relationship of the words to each other as you understand them (cue students to work independently using their own thinking to create their diagrams; sharing will come next).

Communicate your reasoning and share your diagram with a partner or two; listen while they share theirs. (Tell students that they may adjust/change their diagrams at any time during the activity.)

Assess the diagrams; discuss sameness and differences; share point of view; adjust your diagram.

Build your understanding with self-testing; Expand your diagram with new/related words.

Students organize word cards into a diagram that shows the relationships of the words to each other, as they understand them. They explain their reasoning to others, showing their diagram. Provide students multiple opportunities to share their diagrams and reasoning. This will allow them to develop verbal confidence and will greatly improve the likelihood that they will participate in large group discussions.

For example, pretend you have taught a lesson about health and wellness. You selected the following words as important for your students to learn well: wellness, mental health, environment, self-esteem, nutrition, physical fitness, relationships, and disease. The students tear a piece of paper into 10 small pieces and write each word on a small piece of paper (two pieces will be left to be used later).

The students arrange these words on their desk, in any configuration that makes sense to them. After a few minutes, the students share with a partner and explain why they arranged

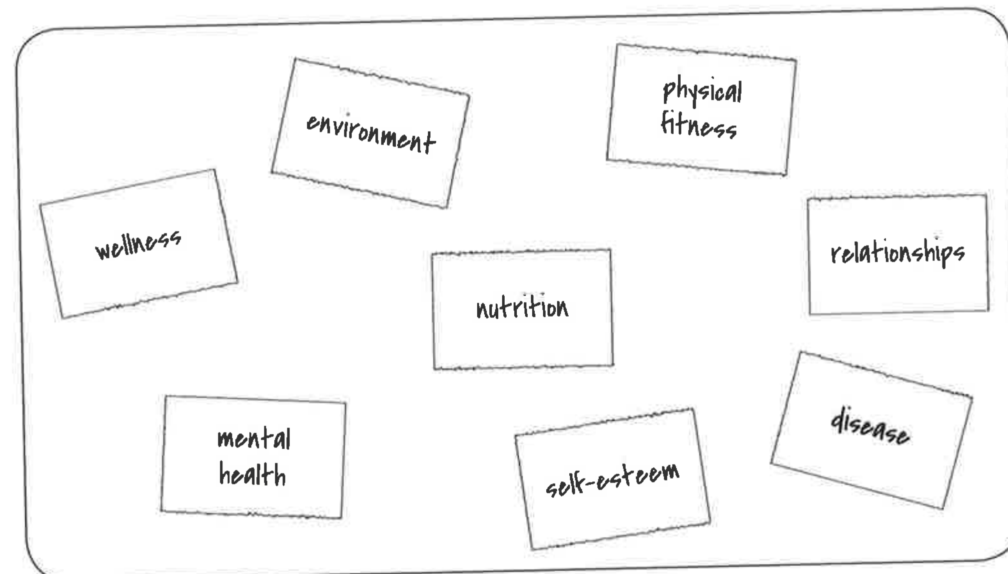

Figure 10.4. Vocabulary words scattered. (From Cheever, G. [2011]. VOCAB. personal communication; adapted by permission.)

the words as they did. Students are free to diagram the words in any way they choose, as long as they can explain their reasoning. What you will observe is that students will create many different diagrams, but it is their explanations that will give you insight into their thinking. For example, some students may put *environment* on top while others may organize around another word. It is important that students compare diagrams, share their thinking, and consider the different points of view rather than focusing on the "right answer" (see Figure 10.5).

Once students have created their initial diagrams, they are ready to build and expand upon them. One option is to give them another word(s) that they must incorporate into their diagrams. For example, ask them to write the word, *stress,* on one of the extra pieces of paper. The students add *stress* to their diagrams, rearranging if necessary to accommodate the new word. Ask them to assess the diagram once again. Did the diagram change? Why? Again, have the students share with a peer, telling why they arranged the words as they did. Next, tell students to form a small group to discuss which word they feel should be written on the last piece of paper and added to the diagram. They may go back to the chapter on health and wellness and reread it to determine one more important concept about that topic they feel they should remember. The group must reach consensus, so encourage discussion and debate. Some examples of words students may want to add include *choices, spirituality, balance,* or *diet.* As long as the students can justify why they think that word is important, their selected word is accepted. The students add their new word to their diagram. Each group shares with the class their chosen word, rationale for selecting that word, and how their diagram changed when the new word was added.

> Manipulation + Meaning = Memory

Providing students opportunities to manipulate material in meaningful ways increases their memory of the new material. To help teachers remember this concept, Don Deshler formulated the 3M Principle: Manipulation + Meaning = Memory.[42] When you provide students with multiple opportunities to manipulate (hear, use, and think about) new vocabulary words that are meaningful to them, the students are more likely to remember the meaning of the new words.

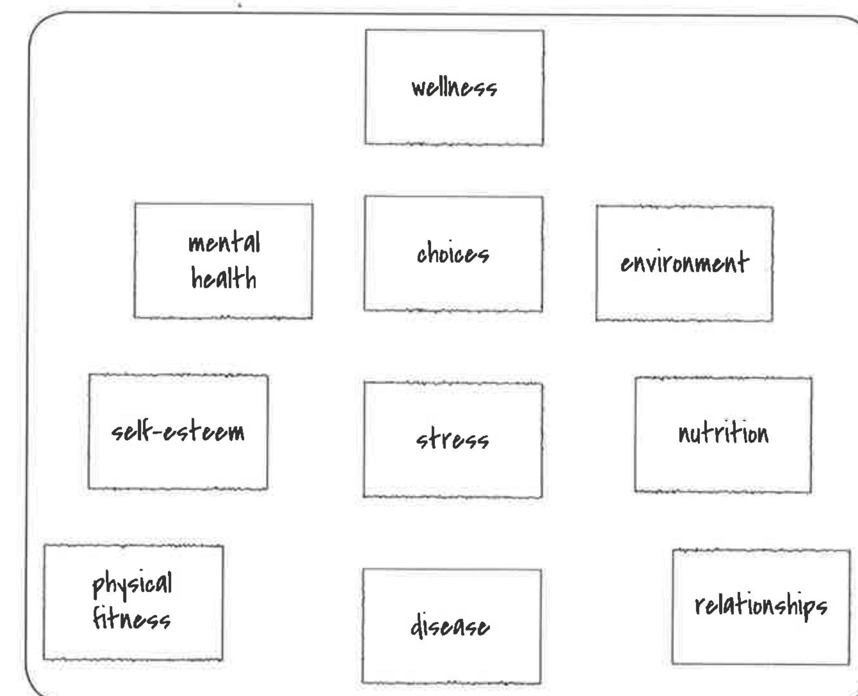

Figure 10.5. Vocabulary completed example. (From Cheever, G. [2011]. VOCAB. personal communication; adapted by permission.)

Word Line

Students are expected to learn that words can express degrees or shades of meaning. Often, students are confused by the slight nuanced differences in word meanings. For example, what is the difference between *slender* and *thin*? Which has a more positive connotation? What about *emaciated, skinny,* and *gaunt*? To actively involve students in pondering these differences, have them create a word line.[42] This activity could be done several ways. In the first example, the teacher provides a scaffold by providing a list of words and having the students place the words on the word line. Let us use the following words as an example: *walk, crawl, run, sprint, stroll,* and *jog*. Ask the students to place the words on the number line with the slowest type of movement on the left and the fastest on the right. One way to scaffold this task is to place the word in the middle of the number line, i.e., *walk*. The students complete the word line by placing the "slow" words to the left of *walk* and the "faster" words to the right of *walk*. (see Figure 10.6).

Pinch Papers with Examples and Nonexamples

Use pinch papers to make responses observable and interactive. Pinch papers are a form of response that involves the whole group and allows the teacher to quickly gauge understanding. For example, you might use pinch papers along with examples and nonexamples. Pretend you are helping students think deeply about the learned word *hubris*, using pinch papers: First, ask students to fold a piece of paper in two, vertically. Have students print "1" in large block letters on top of the column and "2" on the bottom of the column (see Figure 10.7). Proceed to read two sentences aloud, asking the students to pinch the number of the sentence in which the word *hubris* is used correctly.

Say: Which is correct? 1) Some politicians have so much *hubris* they think they can change the world alone or 2) The kind nun's *hubris* kept her from helping the poor.

Note which students correctly selected #1, which ones hesitated, and which ones had no clue. Gradually make the sample sentences more difficult. For example:

Say: Which is correct? 1) Students competing in spelling bees are often very nervous; their *hubris* can interfere with their thinking, or 2) The *hubris* of the owners of the Titanic was a major reason the ship sank. The owners were convinced they had built an unsinkable ship. (The correct answer is #2. Notice the importance of background knowledge.)

POST-ASSESSMENT

Refer to the assessment that was completed at the beginning of this chapter. Think about the four target words: *myriad, hubris, sagacious,* and *morphology*. Write them again on the Dale's scale, in the column that you now feel is appropriate. Did any of the words move up to column 4? Score the number of points earned. Four new vocabulary words were learned, easily, without using boring worksheets, just by reading this chapter! Care has been taken to provide explicit context clues, embedded definitions, and multiple exposures of each word.

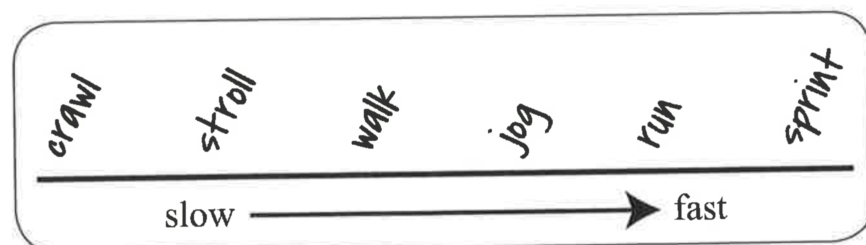

Figure 10.6. Word line.

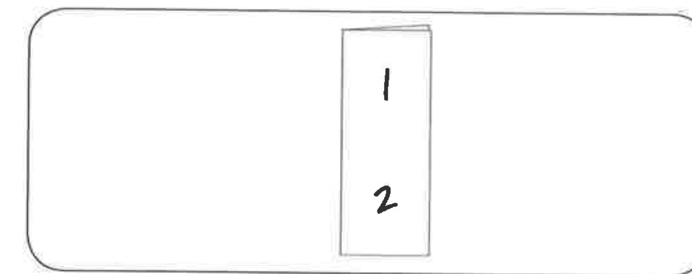

Figure 10.7. Pinch paper 1 & 2.

APPLICATION ASSIGNMENTS

In-Class Assignments

1. Retrieve the curriculum maps from the University of Oregon IDEA (http://reading.uoregon.edu/). With a partner, create a graphic organizer illustrating what vocabulary skills should be taught when.
2. With a partner, consider why teachers still use the vocabulary list/copy definition/use word in a sentence vocabulary routine. What alternative assignments would you suggest to a colleague who relies on this activity to teach new vocabulary to students?
3. Discuss when you would teach students the meanings of individual words and when you would teach word-learning strategies. Consider whether your objective is to improve immediate reading comprehension of a passage, to teach students to generate new words, or to transfer their knowledge of words to learn new words and skills. Provide examples from a text you plan to use with your student.

Tutoring Assignments

1. Select a book your student is reading or would be interested in reading. Select which words you should pre-teach, which words your student should be able to figure out using context, and which words you would teach in-depth after reading. Design a lesson plan to implement strategies from this chapter to teach the words you selected.
2. From the list of prefixes and suffixes you selected for the homework assignment, plan a lesson to teach 2–3 new vocabulary words to your student. If appropriate, include teaching the meaning of the prefix or suffix, how it changes the meaning of the word, and other words that fit that pattern.
3. Plan a lesson to teach students about morphemic analysis. Explain the definition of a morpheme and how being able to identify morphemes will help the student discern the meaning of unfamiliar vocabulary words. Teach the lesson. Afterward, reflect upon how you might have taught the lesson differently to scaffold for struggling students, accelerate for advanced students, or support English language learners.

Homework Assignments

1. Explore the following web sites and report to a partner how each may be useful to you as a teacher.
   a. http://www.textproject.org
      Explore the Summer Reads, free books for students, grades 4–6, to read over the summer. What vocabulary strategies would help students prepare to read those books?
   b. http://www.fcrr.org
      Go to Instructional Materials for Teachers, student center activities and pick a grade level, then select vocabulary activities. Review an activity and prepare to share it with a peer.