VOCABULARY

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PROFESSIONAL DEVELOPMENT SERIES

The Value of Intentional Vocabulary Instruction in the Middle Grades

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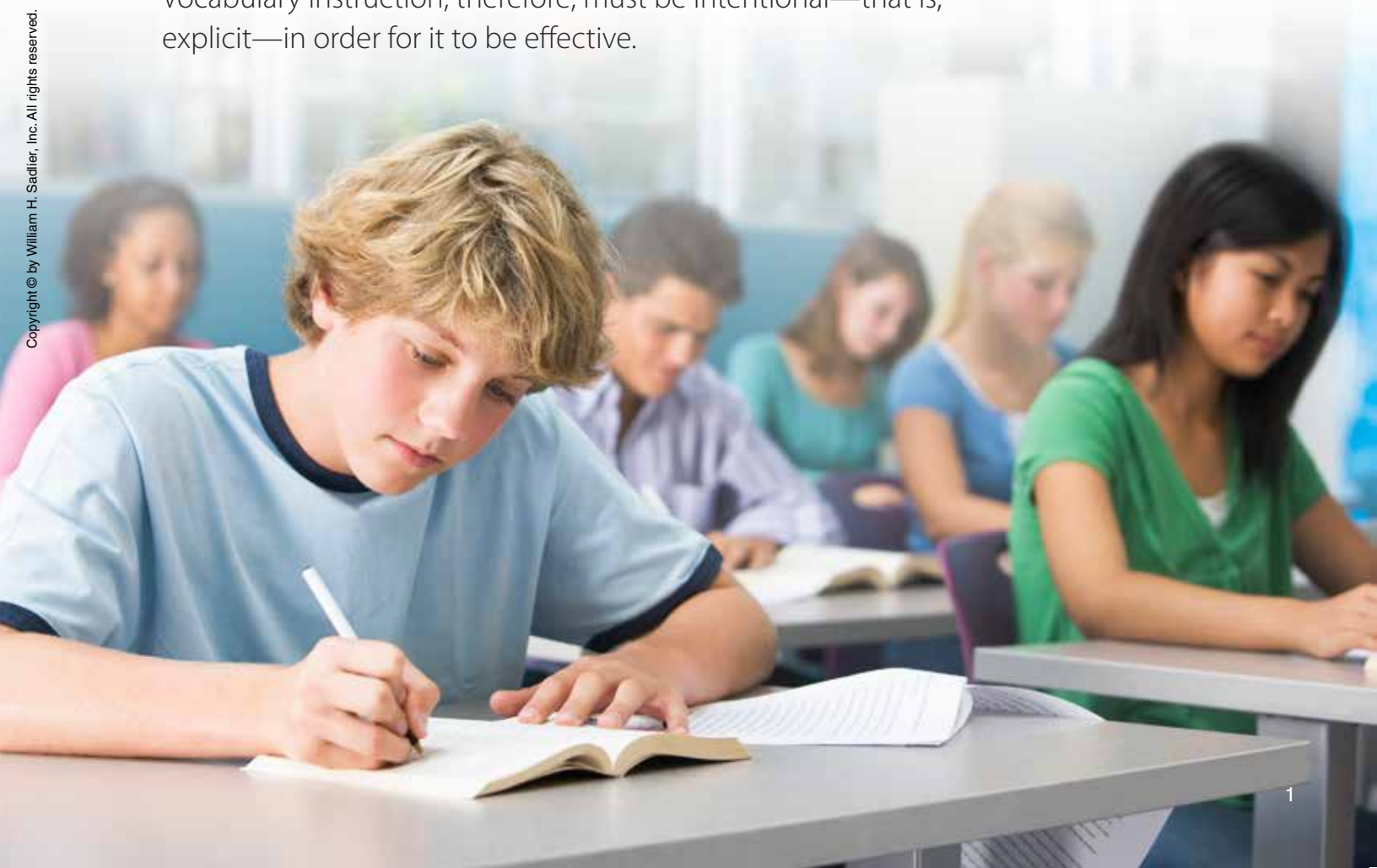
INTRODUCTION

As educators, we understand the power of words to inform, influence, and inspire. We recognize the beauty of a well-chosen word in a speech, marvel at the cleverness of a lyric in a song. Even our daily interactions are peppered with the vocabulary of our discipline and interests. When we open our mouths, we reveal our vocations. When we write a message, we reveal our avocations.

There is power in language. And there is power in the instruction of every new word. But sound vocabulary instruction requires attending to the selection, context, and grouping of words. In addition, teachers must model their thinking about the words, and students must be engaged in activities that get them using the words in the company of their peers. And finally, learners must have multiple experiences with new words so those words can become part of their personal vocabularies. Vocabulary instruction, therefore, must be intentional—that is, explicit—in order for it to be effective.



USING A GRADUAL RELEASE OF RESPONSIBILITY IN VOCABULARY INSTRUCTION

Telling is not teaching; learners need to engage in a variety of instructional experiences that deepen and broaden their knowledge of the concepts being taught. Learning theorists have described the importance of supports being made available and then gradually withdrawn as the learner becomes more confident and assured—a process referred to as scaffolding (Wood, Bruner, & Ross, 1976). Pearson and Gallagher (1983) applied this concept to reading instruction and called it the *gradual release of responsibility*. We have further expanded this concept to an instructional-design process, adding peer interaction as a key scaffold. Thus, this model includes teacher modeling, guided instruction, productive group work, and independent learning (Fisher & Frey, 2008a).

A corollary progression occurs in vocabulary learning. Stahl and Fairbanks (1986) described an initial phase of knowledge, which they termed the associational level. In this phase, students know words superficially, mostly through matching definitions to terms. As their understanding deepens, they move into the comprehension level, where they can sort and categorize. And at the highest level of word learning, called the generative level, they apply what they know about words to new and original situations, especially in using it in their writing (Stahl & Fairbanks, 1986). The gradual release of responsibility model of instruction follows a similar progression in deepening word knowledge so that it becomes a permanent part of students' working vocabulary.

Teacher Modeling. The power of teacher modeling as an instructional tool is that it allows students to witness the way concepts are used by an expert. In addition, students are privy to the skilled decision making used by the expert to make choices about how words are understood, chosen, and used in context. Teacher modeling applies many of the same techniques used when demonstrating a physical task. For example, when perfecting the swing of a baseball bat, the coach (expert) slows down the process, repeats it, and discusses what she is seeing and doing as she grips the bat, swings, and makes contact with the ball. To be sure, vocabulary learning is a thinking process, not a motor one, and so the demonstration comes from explaining one's thinking as the vocabulary is used.

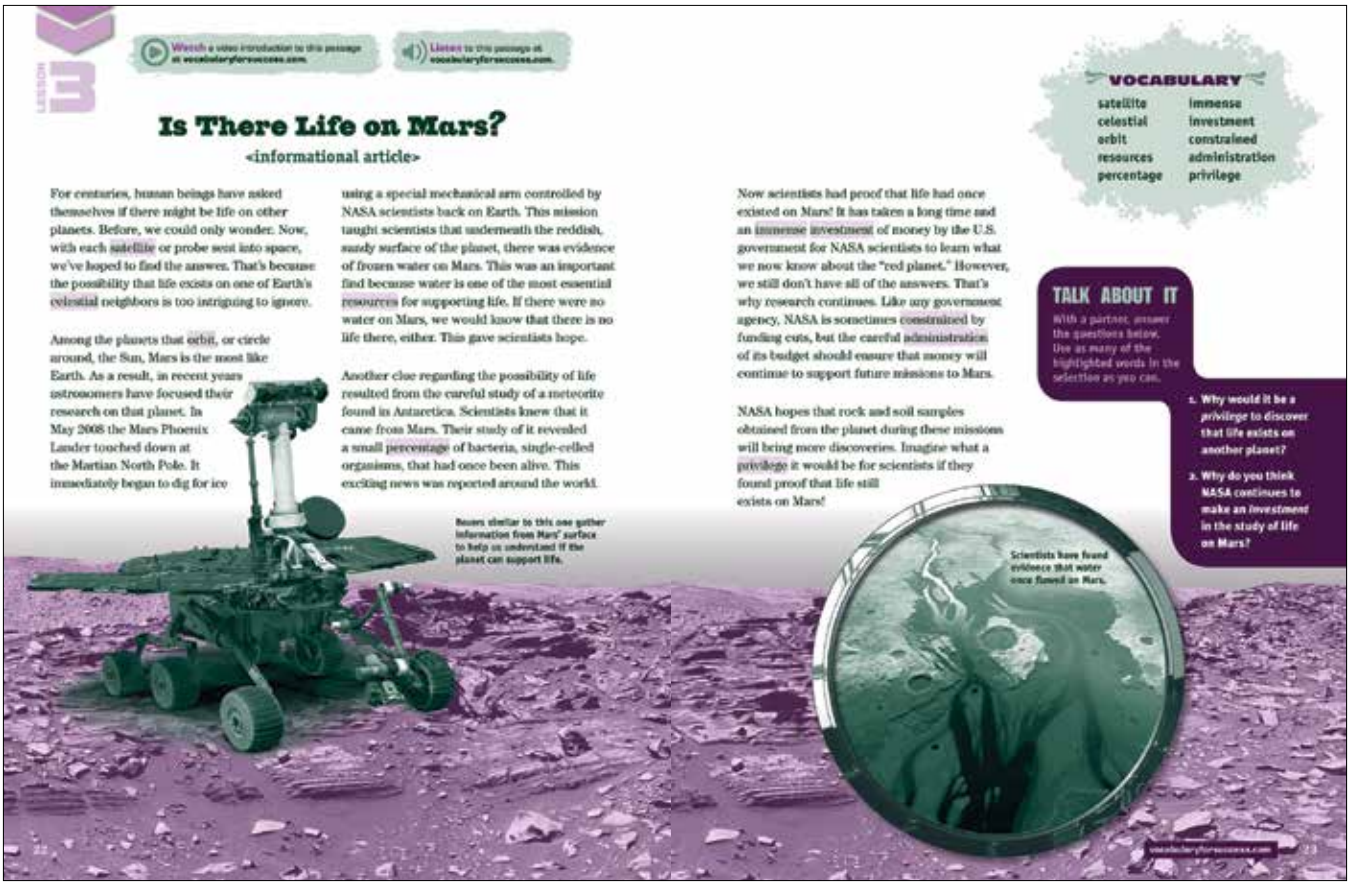
This is essential when modeling how unfamiliar words are "solved." Many adolescents have a monolithic view of vocabulary—either you know it, or you don't—and thus an unknown word in a text stops them in their tracks. Sometimes students shrug their metaphorical shoulders and skip the word; but if this occurs too many times, they may give up altogether. Students do not know that when a skilled reader encounters an unknown word, he or she uses structural and contextual analyses, as well as resources such as dictionaries and thesauri, to problem-solve. Stated differently, without explicit instruction, students remain unaware that skilled readers look inside the word for structural clues, outside the word for context, and even further outside at resources such as a glossary (Fisher & Frey, 2008b). They remain unaware that when the word has multiple meanings, all known meanings are activated simultaneously, and the reader must rapidly sort through them to arrive at the best choice (Swinney, 1979). Therefore, these problem-solving techniques need to be brought to the fore in order for students to begin applying them in their own learning.

Modeling one's thinking takes some practice, as most of us have not witnessed our own teachers using this technique. However, we find the concept-development research of Tennyson and Cocchiarella (1986) to be helpful in modeling vocabulary (Fisher, Frey, & Lapp, 2009). Consider how teacher modeling of the vocabulary term *buoyancy* is used in a reading about a flood:

- *Label and definition:* "I know that buoyancy has something to do with floating."
- *Context:* "I'm going to reread that sentence. *'Any object with enough buoyancy floated away, while the heavier items quickly sank to the bottom of the raging river.'* Yes, I can see the definition right in the sentence."
- *Best example:* "I've heard of buoyancy before. When I took scuba diving lessons, I had to wear a weight belt to make me less buoyant so I could go deeper."
- *Attribute elaboration:* "I noticed that the word buoy is in there. That makes me think of the buoys that are on the bay. Those buoys float on top of the water and guide boats safely out to the ocean."
- *Strategy information:* "When I first read that sentence, buoyancy jumped out at me because I don't see it very often. But I reread the sentence, looked for some context clues, and used some structural analysis to find a more familiar word within it. I also paused to remind myself of a previous experience I had with the term."

Speaking in the first person ("I-statements") is a hallmark of teacher modeling and differs from the second-person directives ("you-statements") students usually experience. By sharing their own thinking, teachers give a learner insight into the ways he or she considers, and in some cases discards, possibilities. This practice also opens the door for students to discuss and use vocabulary with their peers in a variety of learning activities.

Peer Interaction. Modeling alone is insufficient for learning; if this was all we needed, we all could play professional football or occupy the first chair in a symphony orchestra. Modeling establishes the initial thinking processes that one uses when reading, writing, and speaking about vocabulary, but students need opportunities to try the words for themselves. In particular, students need to use target vocabulary in their spoken language before they can be expected to use it in more formal written language. As Bromley (2007) reminds us, "Language proficiency grows from oral competence to written



LESSON 3

Watch a video introduction to this passage at vocabularyforsuccess.com.

Listen to this passage at vocabularyforsuccess.com.

Is There Life on Mars?

«informational article»

For centuries, human beings have asked themselves if there might be life on other planets. Before, we could only wonder. Now, with each satellite or probe sent into space, we've hoped to find the answer. That's because the possibility that life exists on one of Earth's celestial neighbors is too intriguing to ignore.

Among the planets that orbit, or circle around, the Sun, Mars is the most like Earth. As a result, in recent years astronomers have focused their research on that planet. In May 2008 the Mars Phoenix Lander touched down at the Martian North Pole. It immediately began to dig for ice using a special mechanical arm controlled by NASA scientists back on Earth. This mission taught scientists that underneath the reddish, sandy surface of the planet, there was evidence of frozen water on Mars. This was an important find because water is one of the most essential resources for supporting life. If there were no water on Mars, we would know that there is no life there, either. This gave scientists hope.

Another clue regarding the possibility of life resulted from the careful study of a meteorite found in Antarctica. Scientists knew that it came from Mars. Their study of it revealed a small percentage of bacteria, single-celled organisms, that had once been alive. This exciting news was reported around the world.

Now scientists had proof that life had once existed on Mars! It has taken a long time and an immense investment of money by the U.S. government for NASA scientists to learn what we now know about the "red planet." However, we still don't have all of the answers. That's why research continues. Like any government agency, NASA is sometimes constrained by funding cuts, but the careful administration of its budget should ensure that money will continue to support future missions to Mars.

NASA hopes that rock and soil samples obtained from the planet during these missions will bring more discoveries. Imagine what a privilege it would be for scientists if they found proof that life still exists on Mars!

Rovers similar to this one gather information from Mars' surface to help us understand if the planet can support life.

Scientists have found evidence that water once flowed on Mars.

VOCABULARY

satellite	immense
celestial	investment
orbit	constrained
resources	administration
percentage	privilege

TALK ABOUT IT

With a partner, answer the questions below. Use as many of the highlighted words in the selection as you can.

1. Why would it be a *privilege* to discover that life exists on another planet?
2. Why do you think NASA continues to make an *investment* in the study of life on Mars?

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competence." All students benefit from purposeful use of new vocabulary within the context of meaningful and engaging activities. This is even more critical for adolescent English language learners who are simultaneously learning English while learning *in* English (Fisher, Frey, & Rothenberg, 2008).

Peer interaction is not a separate activity; it exists as part of a cohesive instructional design that follows a gradual release of responsibility (Fisher & Frey, 2008a). In the same way that the teacher models his or her thinking processes during the modeling phase, students now begin to assume some of the cognitive responsibility as they explain, discuss, clarify their understanding, and reflect on their learning. While the students interact with the content and each other, the teacher moves from group to group, offering guided instruction in the form of questions, cues, and prompts. When a group is stuck and these scaffolds do not result in increased understanding, the teacher uses modeling and direct explanation (Frey, Fisher, & Everlove, 2009).

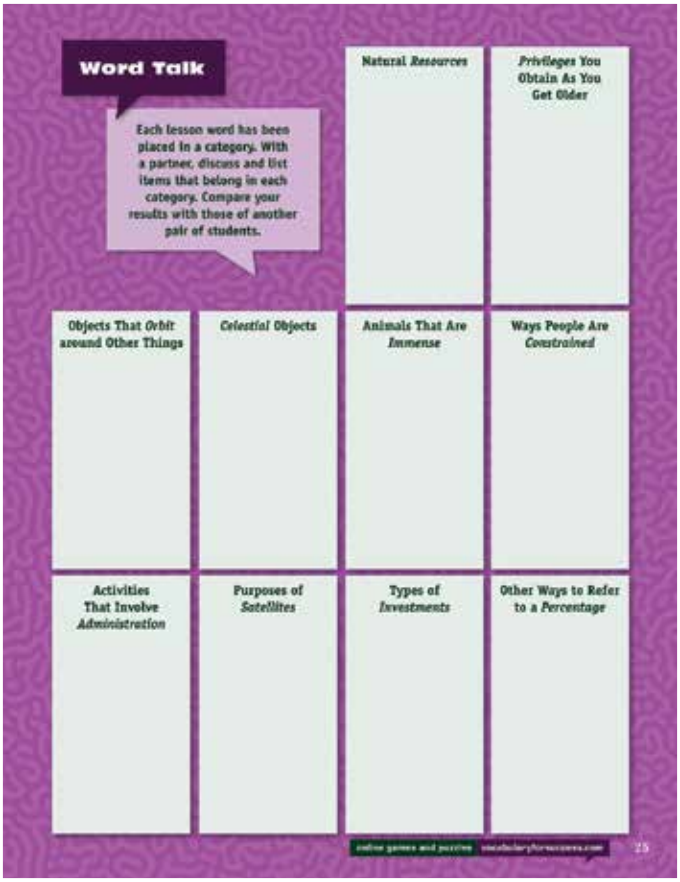
The design of the task students engage in with their peers must be meaningful in order to promote the kind of cognitive processes necessary for learning. To increase learning, many vocabulary researchers have recommended games and other activities that capitalize on a sense of play (e.g., Beck, McKeown, & Kucan, 2002; Blachowicz & Fisher, 2002; Graves, 2006). Game-like activities raise word consciousness and naturally encourage the repeated and authentic

use of the words, thereby reinforcing new learning (Graves, 2006). The most effective peer interaction tasks emphasize comprehension and generative learning, not just a continuation of superficial associative learning that is more temporary in nature (Stahl & Fairbanks, 1986). These peer-interaction tasks prepare students for the more complex learning that occurs during the independent phase of instruction.

Moving to Independent Word Learning.

We are often reminded of the adage, "Practice doesn't make perfect; practice makes permanent." If students are rushed to the independent phase of learning, they practice imperfectly and end up reinforcing inaccurate or incomplete knowledge. A gradual release-of-responsibility model of instruction that provides teacher modeling, guided instruction, and productive group work decreases the likelihood that independent practice will reinforce incorrect understanding (Fisher & Frey, 2008a). However, vocabulary instruction should also deepen conceptual understanding through a process Stahl and Fairbanks (1986) call the generative level of word knowledge. In this phase, students are using targeted vocabulary in more formal original writing. These need not be long essays—sentence- and paragraph-length writing is equally effective. There is also an increased focus on using academic language in conjunction with the academic vocabulary they are using. Independent activities include the use of generative sentences that lead students to consider the grammatical and semantic features of the word (Fisher & Frey, 2008a). A generative sentence activity names the word, the position of its occurrence within the sentence, and the condition of the sentence itself. For example:

- Write a sentence of exactly nine words in length using the word *extend*.
- Write a sentence with the word *coordinate* in the fourth position. This last generative sentence might result in something like this: *I can help coordinate all the details for the school dance, but I can't do it alone.*



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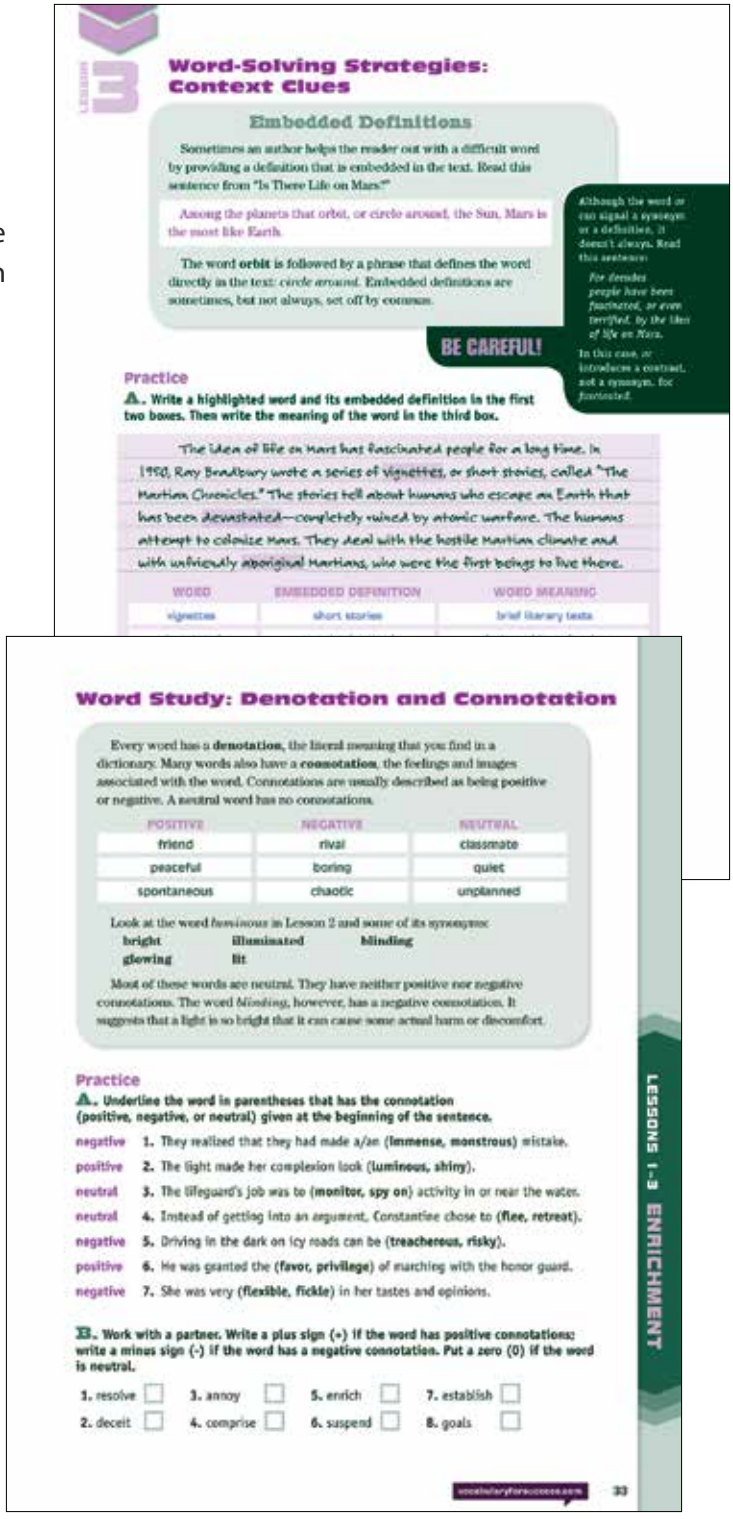
Students can further expand their generative sentences by selecting one that can be expanded to paragraph length. Generative activities provide students with the opportunity to consolidate their word learning by requiring them to utilize their associational and comprehension levels of knowledge. In turn, the vocabulary more fully becomes a part of *their* vocabulary as they become more confident using it in their spoken and written language.

Selecting Words.

The practice of constructing lists of words for student study has been a dominant feature in vocabulary instruction for more than a century. Among the lists that have influenced the field are the Dolch Word List of sight vocabulary for young readers (1936), the Academic Word List (AWL) (Coxhead, 2000), and the Background Knowledge Word List (Marzano, 2004). While these lists vary at the word level, they have one important element in common: All are derived from what students are expected to understand. These lists are not intended to be used in isolation, but rather as contextually bound to a discipline or academic behavior. For example, the AWL is comprised of 570 headwords totaling 3,000 individual words from textbooks in 11 different discipline areas. The researcher recorded the frequency of words, discarded the first 2,000 most common English words among them (the General Service List: words such as *the*, *make*, and *together*), and constructed a list composed of high-utility academic words that occur across disciplines (such as *reinterpret*, *analyze*, and *correspond*). While the AWL draws from textbooks as its primary source, the Background Knowledge Word List resulted from an analysis of 28 national standards



LESSON 3

Word-Solving Strategies: Context Clues

Embedded Definitions

Sometimes an author helps the reader out with a difficult word by providing a definition that is embedded in the text. Read this sentence from "Is There Life on Mars?"

Among the planets that orbit, or circle around, the Sun, Mars is the most like Earth.

The word **orbit** is followed by a phrase that defines the word directly in the text: *circle around*. Embedded definitions are sometimes, but not always, set off by commas.

BE CAREFUL!

Although the word *or* can signal a synonym or a definition, it doesn't always. Read this sentence:

For decades people have been fascinated, or even terrified, by the idea of life on Mars.

In this case, *or* introduces a contrast, not a synonym, for *fascinated*.

Practice

A.. Write a highlighted word and its embedded definition in the first two boxes. Then write the meaning of the word in the third box.

The idea of life on Mars has fascinated people for a long time. In 1950, Ray Bradbury wrote a series of vignettes, or short stories, called "The Martian Chronicles." The stories tell about humans who escape an Earth that has been devastated—completely ruined by atomic warfare. The humans attempt to colonize Mars. They deal with the hostile Martian climate and with indigenous aboriginal Martians, who were the first beings to live there.

WORD	EMBEDDED DEFINITION	WORD MEANING
vignettes	short stories	brief literary texts

Word Study: Denotation and Connotation

Every word has a **denotation**, the literal meaning that you find in a dictionary. Many words also have a **connotation**, the feelings and images associated with the word. Connotations are usually described as being positive or negative. A neutral word has no connotations.

POSITIVE	NEGATIVE	NEUTRAL
friend	rival	classmate
peaceful	boring	quiet
spontaneous	chaotic	unplanned

Look at the word *luminous* in Lesson 2 and some of its synonyms:

bright **illuminated** **blinding**
glowing **lit**

Most of these words are neutral. They have neither positive nor negative connotations. The word *blinding*, however, has a negative connotation. It suggests that a light is so bright that it can cause some actual harm or discomfort.

Practice

A.. Underline the word in parentheses that has the connotation (positive, negative, or neutral) given at the beginning of the sentence.

negative 1. They realized that they had made a/an **(immense, monstrous)** mistake.
positive 2. The light made her complexion look **(luminous, shiny)**.
neutral 3. The lifeguard's job was to **(monitor, spy on)** activity in or near the water.
neutral 4. Instead of getting into an argument, Constantine chose to **(flee, retreat)**.
negative 5. Driving in the dark on icy roads can be **(treacherous, risky)**.
positive 6. He was granted the **(favor, privilege)** of marching with the honor guard.
negative 7. She was very **(flexible, fickle)** in her tastes and opinions.

B.. Work with a partner. Write a plus sign (+) if the word has positive connotations; write a minus sign (-) if the word has a negative connotation. Put a zero (0) if the word is neutral.

1. resolve ☐ 3. annoy ☐ 5. enrich ☐ 7. establish ☐
2. deceit ☐ 4. comprise ☐ 6. suspend ☐ 8. goals ☐

LESSONS 1-3 ENRICHMENT

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documents. The nearly 8,000 words on this list tend to be more discipline-specific (for example, *monarchy*, *tributary*, and *radiation*). One strength of this approach is that the selected words represent content-specific knowledge and its inherent conceptual understanding.

While word lists provide an excellent starting point for identifying possible words for direct instruction, their usefulness must be weighed against other factors, including their utility, their opportunity for analysis, and their overall cognitive load. Drawing from the collective work of Graves (2006), Nagy and Herman (1987), and Marzano (2004), we have constructed a decision-making model for further refining the list of possibilities (Fisher & Frey, 2008b):

- Is the word representative of an essential idea or concept?
- Will the word be used repeatedly within and across units of instruction?
- Is the word transportable across other disciplines?
- Does the use of the word invite contextual analysis?
- Does the word offer an opportunity for structural analysis?
- Do the selected words honor the learner's cognitive load?

A key consideration for selecting words is the way in which they can be clustered to ensure that terms mutually inform one another, and that they can serve as "doorway" words for learning new vocabulary. Given the large number of words that students need to know and the relatively small number of words that can receive direct instruction, it is essential to choose terms that foster independent word learning. Although English has earned an unfair reputation for being unpredictable, the truth is that approximately 80 percent to 85 percent of printed English is comprised of common words from the General Service List. Many of the remaining vexing 15 percent to 20 percent of words are formed around a common base, root, or affix. These word families are constructed using the building blocks of the language: *dis-*, *-trans-*, *-norm-*, and *-ance*. By clustering and teaching these building blocks, students are better able to transfer their knowledge of the language when they encounter unfamiliar words during independent reading (Baumann, Font, Edwards, & Boland, 2005).

approximately **80%** to **85%** of printed English is comprised of common words from the General Service List

In sum, the selection of words for direct instruction involves analysis of research-based word lists that represent both content-specific and cross-disciplinary terms. In addition, the final selection of instructional vocabulary

should feature a decision-making framework that further considers both the practical utility of the new words and the potential for building the skills of learners in solving both the targeted vocabulary as well as the terms they encounter outside of the vocabulary classroom. Once these words are identified, they are taught using a gradual release of responsibility.

The Influence of Vocabulary on Learning.

The importance of vocabulary knowledge has been reported in many places, but the topic deserves repeating here as well. A cluster of research studies in the 1980s confirmed what most educators had long suspected—that vocabulary demand skyrockets in middle school as students become immersed in formal discipline-specific study. Arguably the most widely reported figures stem from the seminal research of William Nagy and Richard Anderson, who reported that by the time students enter ninth grade, they will have encountered 88,500 word *families* in printed school materials (1984). This staggering number would give even the most energetic teacher pause. There is simply no way to provide direct instruction for all of those words. But while 500,000 individual words are too much to contemplate, the good news is that the operative word—*families*—gives us a glimpse of what effective instruction might look like.

by the time students enter **9th grade**, they will have **encountered 88,500 word *families***

A second cluster of vocabulary research has focused on vocabulary's influence on learning. Most secondary educators are aware of the importance of vocabulary because it serves as a proxy for conceptual knowledge in middle school (Espin, Shin, & Busch, 2005). Stated differently, the more familiar one is with the vocabulary of a content area, the more likely it is that one knows something about that content. This idea is borne out in the findings of Baker, Simmons, and Kame'enui (1998), who found that vocabulary knowledge was a strong predictor of reading comprehension. By some estimates, vocabulary knowledge accounts for between 70 percent and 80 percent of reading comprehension (Nagy & Scott, 2000). This is a significant factor at the middle school level, where science and history textbooks and other expository reading materials are used with increasing frequency and also contain increasingly dense, abstract, and technical language (Fang, 2008).

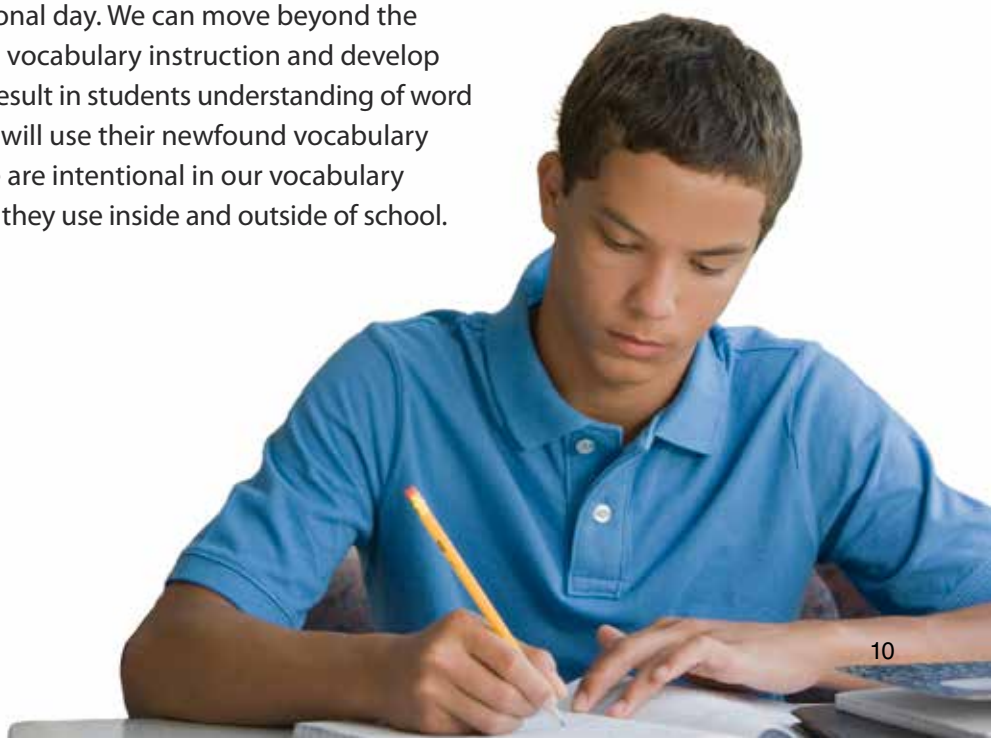
vocabulary knowledge accounts for between **70%** and **80%** of **reading comprehension**

Devoting Time to Word Learning Is Time Well Spent.

The third cluster of vocabulary research concerns what it means to "know" a word. There is wide agreement that word knowledge is layered and extends well beyond definitional knowledge. It includes knowledge of examples and nonexamples, adept use in oral and written communication, and fluent availability and recall of words (Blachowicz & Fisher, 2000; Cronbach, 1942; Dale, O'Rourke, & Bamman, 1971; Graves, 1986). Because knowledge is multidimensional, teaching of those words must be as well. Effective vocabulary instruction requires that words are taught within context, that definitional and contrastive meanings are provided, and that students have multiple, authentic experiences with using words in their spoken and written language (Beck, McKeown, & Kucan, 2002; Blachowicz & Fisher, 2000; Graves, 2006).

Taken together, these three clusters of vocabulary research provide a road map for effective vocabulary instruction. First, adolescents experience a breathtaking rise in school vocabulary demand. Second, the increased influence of vocabulary directly impacts students' ability to read and converse in the language of the discipline. And third, the complex nature of word knowledge requires an instructional approach that cultivates an increasingly sophisticated understanding of the relationship between words and concepts. An effective vocabulary program offers carefully selected words that are presented in context and modeled by the teacher; associative experiences that emphasize both the definitional and contrastive meanings of words, accompanied by student interaction with words and one another; and generative experiences that allow students to make it their vocabulary.

We can lift words from the page and ensure that vocabulary learning is an interesting part of students' instructional day. We can move beyond the "assign, define, and test" approach to vocabulary instruction and develop systems and resources that really do result in students understanding of word meanings. As this happens, students will use their newfound vocabulary regularly and authentically. When we are intentional in our vocabulary instruction, students learn words that they use inside and outside of school.



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