

Effective Vocabulary Instruction

By Joan Sedita

Why is vocabulary instruction important?

Vocabulary is one of five core components of reading instruction that are essential to successfully teach children how to read. These core components include phonemic awareness, phonics and word study, fluency, vocabulary, and comprehension (National Reading Panel, 2000). Vocabulary knowledge is important because it encompasses all the words we must know to access our background knowledge, express our ideas and communicate effectively, and learn about new concepts. "Vocabulary is the glue that holds stories, ideas and content together... making comprehension accessible for children." (Rupley, Logan & Nichols, 1998/99). Students' word knowledge is linked strongly to academic success because students who have large vocabularies can understand new ideas and concepts more quickly than students with limited vocabularies. The high correlation in the research literature of word knowledge with reading comprehension indicates that if students do not adequately and steadily grow their vocabulary knowledge, reading comprehension will be affected (Chall & Jacobs, 2003).

There is a tremendous need for more vocabulary instruction at all grade levels by all teachers. The number of words that students need to learn is exceedingly large; on average students should add 2,000 to 3,000 new words a year to their reading vocabularies (Beck, McKeown & Kucan, 2002). For some categories of students, there are significant obstacles to developing sufficient vocabulary to be successful in school:

- **Students with limited or no knowledge of English.** Literate English (English used in textbooks and printed material) is different from spoken or conversational English. This can present challenges as these students try to make sense of the English they read, especially at the middle and high school levels.
- **Students who do not read outside of school.** The amount of time spent reading and the amount read are important. For example, a student who reads 21 minutes per day outside of school reads almost 2 million words per year. A student who reads less than a minute per day outside of school reads only 8,000 to 21,000 words per year (Texas Reading Initiative, 2002).
- **Students with reading and learning disabilities.** Weaknesses in phonemic awareness, phonics, and word analysis skills prohibit students from reading grade-level content material and the rich opportunity this offers for encountering new, content-related words that can only be found in written English.
- **Students who enter school with limited vocabulary knowledge.** At first-grade, high-performing students know about twice as many words as low-performing students, but that differential gets magnified each year, resulting in high-performing 12th grade students knowing about four times as many words as the low-performing 12th graders (Hart & Risley, 1995).

To overcome these obstacles, teachers need to engage the best kinds of vocabulary instruction and use technology that accommodates and supports that instruction.

The connection between vocabulary knowledge and reading comprehension

One of the oldest findings in educational research is the strong relationship between vocabulary knowledge and reading comprehension. Word knowledge is crucial to reading comprehension and determines how well students will be able to comprehend the texts they read in middle and high school. Comprehension is far more than recognizing words and remembering their meanings. However, if a student does not know the meanings of a sufficient proportion of the words in the text, comprehension is impossible. Vocabulary experts agree that adequate reading comprehension depends on a person already knowing between 90 and 95 percent of the words in a text (Hirsch, 2003). Knowing at least 90 percent of the words enables the reader to get the main idea from the reading and guess correctly what many of the unfamiliar words mean, which will help them learn new words. Readers who

do not recognize at least 90 percent of the words will not only have difficulty comprehending the text, but they will miss out on the opportunity to learn new words.

Differences between good and poor readers

Before entering school, word learning takes place through listening to those around us. Most of the words children hear that are spoken in school are words they already know, so the source for learning new words shifts to written context (from reading). Because written text does not offer features of oral language such as intonation, body language, and shared physical surroundings, it is more difficult to learn new words from reading (Beck, McKeown & Kucan, 2002).

Students vary widely in the word knowledge they bring to school. Their socioeconomic backgrounds and the language use in their homes and communities can significantly influence opportunities to expand their vocabularies. Some students have limited vocabulary knowledge as a result of a language-based learning disability. Good oral vocabulary (words we use in speaking and listening) is linked directly to later success in reading, and students who have more vocabulary knowledge in kindergarten become better readers than those who have limited vocabulary (National Institute for Literacy, 2001).

There is a significant gap in the vocabulary knowledge that some students bring to the primary grades, and that gap widens as students progress through the grades. Students who lack adequate vocabulary have difficulty getting meaning from what they read, so they read less because they find reading difficult. As a result, they learn fewer words because they are not reading widely enough to encounter and learn new words. On the other hand, students with well-developed vocabularies read more, which improves their reading skill, and they learn more words. Weak decoding skills (phonemic awareness, phonics and word study, fluency) also contribute to the gap between how much good and poor readers will read and encounter new vocabulary. Over time, poor readers fall further behind. Keith Stanovich (1986) termed this situation the “Matthew Effect” with “rich get richer, poor get poorer” consequences.

Unfortunately, research has shown that this gap continues to grow wider as students move past third grade. Jeanne Chall (1983) coined the term “fourth-grade slump” to describe the drop-off between third and fourth grade in literacy development that many teachers report.

The effect of weak decoding and fluency skills on reading and vocabulary development

A major reason for the “fourth-grade slump” may be a lack of fluency and automaticity (quick and accurate recognition, or decoding, of words and phrases). Lack of fluency tends to result ultimately in children reading less and avoiding more difficult materials (Chall & Jacobs, 1983, 2003). This has a major effect on their ability to develop new vocabulary. Research as a whole suggests that the differences in children’s word knowledge are due largely to differences in the amount of text to which they are exposed (Stahl, 1999) and that students need to read gradually more difficult materials to improve vocabulary. Children with reading problems read less and vocabulary knowledge suffers. Without reading more challenging text, they cannot learn the vocabulary they need to be able to read further challenging text.

Effective Vocabulary Instruction: What the research says

In its analysis of the research on vocabulary instruction, the National Reading Panel (2000) found that there is no one best method for vocabulary instruction, and that vocabulary should be taught both directly and indirectly. Direct instruction means teaching specific words, such as pre-teaching vocabulary prior to reading a selection. It is estimated that students can be taught explicitly some 400 words per year in school (Beck, McKeown & Kucan, 2002). Another example of direct instruction involves the analysis of word roots and affixes (suffixes and prefixes). However, one cannot teach students all of the words they need to learn. Vocabulary instruction must therefore also include indirect instruction methods, such as exposing students to lots of new words and having them read a lot. Indirect instruction also includes helping students develop an appreciation for words and experience enjoyment and satisfaction in their use (Baumann, Kame’enui & Ash, 2003).

In its executive summary, the National Reading Panel summed up its findings as follows:

“The studies reviewed suggest that vocabulary instruction does lead to gains in comprehension, but that the methods must be appropriate to the age and ability of the reader. The use of computers in vocabulary instruction was found to be more effective than some traditional methods in a few studies. It is clearly emerging as a potentially valuable aid to classroom teachers in the area of vocabulary instruction. Vocabulary also can be learned incidentally in the context of storybook reading or in listening to others. Learning words before reading a text also is helpful. Techniques such as task restructuring and repeated exposure (including having the student encounter words in various contexts) appear to enhance vocabulary development. In addition, substituting easy words for more difficult words can assist low-achieving students”.

Overview of Vocabulary Instruction Strategies

Vocabulary instruction experts all recommend a multi-component approach to developing vocabulary knowledge. Graves (2000) has advocated a four-part program that includes wide reading, teaching individual words, teaching word learning strategies, and fostering word consciousness. Stahl’s model (1999) sees vocabulary instruction as an ongoing process that involves using different approaches:

1. Include both definitional information and contextual information about each word’s meaning.
2. Involve children more actively in word learning.
3. Provide multiple exposures to meaningful information about the word.

The TRA (Teacher Reading Academy, 2002) professional development materials were developed by the University of Texas Center for Reading and Language Arts in Austin and distributed throughout the country through the federally sponsored Reading First program (part of the No Child Left Behind legislation). The TRA materials identify the following research-based components for effective vocabulary instruction:

1. Encourage wide reading
2. Expose students to high-quality oral language
3. Promote word consciousness
4. Teach word meaning directly
5. Teach independent word-learning strategies, including the use of context clues, the use of word parts, and the efficient use of the dictionary

The remainder of this chapter will address specific vocabulary instruction strategies.

Indirect Vocabulary Instruction

Wide reading: The more you read, the more vocabulary you learn

The amount of students’ reading is strongly related to their vocabulary knowledge. Students learn new words by encountering them in text, either through their own reading or by being read to. Increasing the opportunities for such encounters improves students’ vocabulary knowledge, which in turn improves their ability to read more complex text. “In short, the single most important thing you can do to improve students’ vocabulary is to get them to read more.” (Texas Reading Initiative, 2002). Students should read different types of text at different levels, including text that is simple and enjoyable, and some that is challenging. As noted above, students will not be able to comprehend text that has too many unfamiliar words (more than 10%); on the other hand, students will not encounter many new words if they read text that is below grade level.

Listening to reading aloud can be just as good a source of word meanings as reading, especially for students with learning disabilities. Stahl, Richek and Vandevier (1991) found that sixth-grade children learned word meanings from a read aloud at the same rate that children typically learned words from written context. They suggest that listening to stories can be a rich source of word learning, and listening may substitute for some of the reading that children with learning disabilities do not do.

Multiple exposure to words

The growth of word knowledge is slow and incremental, requiring multiple exposures to words (Hirsch, 2003; Stahl, 2004). This does not mean simply repeating the word and a definition or synonym, but seeing the word in different contexts. How are words learned incrementally over multiple exposures? Every time we encounter a word in context, we remember something about the word. As we encounter a word repeatedly, more and more information accumulates about that word until we have a vague notion of what it means. As we get more information we are able to define that word. “Vocabulary knowledge seems to grow gradually moving from the first meaningful exposure to a word to a full and flexible knowledge” (Stahl, 1999).

It is helpful for students to understand how they gradually learn words. Teachers should encourage students to actively construct links between new information and previously known information about a word. Being active and cognizant of this process will result in better memory about new words. Dale and O’Rourke (1986) proposed a model of four levels of word knowledge. This model should be shared with students so they can be more metacognitive (thinking about thinking) and metalinguistic (thinking about the structure of words) when learning new words:

1. I never saw it before
2. I’ve heard of it, but I don’t know what it means
3. I recognize it in context – it has something to do with...
4. I know it

Students can use the following chart as a way to become more aware of the new words they encounter.

Student Knowledge Rating Checklist

Vocabulary words	I can define	I have seen/heard	I don’t know

From Texas Center for Reading and Language Arts (2002). Teacher reading academy. Austin, TX: University of Texas at Austin and the Texas Education Agency.

When a student really knows a word, he knows more than the word’s definition. He also knows how that word functions in different contexts. Knowledge of a word includes knowing how it sounds, how it is written, how it is used as a part of speech, and its multiple meanings (Juel & Deffes, 2004). Stahl (2003) makes the distinction between *definitional knowledge* (similar to that included in a dictionary definition), and *contextual knowledge* (understanding how a word’s meaning adapts to different contexts). In order to fully learn a word and its connotations, a student needs multiple exposures to the word in different reading contexts.

Multiple exposure and importance of background knowledge

Background knowledge is a student’s experience and knowledge of the world. Research has established that readers’ existing knowledge is critical for them to comprehend what they read (Anderson & Pearson, 1984). More than vocabulary is needed to understand most texts. It is possible for a student to know all the words in a passage and still not make any sense of it if he has no prior knowledge of the topic. To make constructive use of vocabulary the student also needs a threshold level of knowledge about the topic. This enables him to make sense of the word combinations and choose among multiple possible word meanings (Hirsch, 2003).

People who know a great deal about a topic also know its vocabulary. “Word meanings are not just unrelated bits of information, but are part of larger knowledge structures.” (Stahl, 1999). Reading comprehension

and vocabulary are best served by spending extended time on reading (and listening) to texts on the same topic and discussing the facts and ideas in them. This kind of immersion in a topic not only improves reading and develops vocabulary, it also develops writing skills (Hirsch, 2003).

Direct Vocabulary Instruction

Promote “word consciousness”

Word consciousness means having an interest and awareness of words. Word consciousness involves awareness of word structure, including an understanding of word parts and word order. Students need to become aware of how written language is different from everyday conversation by drawing their attention to the distinctive structures of written language such as compound and complex sentence structures, phrasing within sentences, how punctuation is used to signal phrasing, and paragraph structure.

Word conscious students enjoy learning new words and engaging in word play (Texas Reading Initiative, 2002). One way to promote word consciousness is to point out examples of vivid descriptions, interesting metaphors, similes and other forms of figurative language, and plays on words. Ask students to select examples of exciting use of words when they read and save them in a journal or share them with other students. Teachers should take advantage of opportunities to develop student interest in words, the subtle meanings of words, how to have fun with words, and how words and concepts are related across different contexts.

Students benefit from hearing language that incorporates the vocabulary and syntax (sentence structures) in high-quality written English. Literate written English uses words and grammatical structures in ways that may be new to many students, and reading good literature aloud exposes students to many genres of written English (Texas Reading Initiative, 2002).

Provide direct, explicit instruction in specific words

Although it is impossible to specifically teach all of the new words students must learn each year (between 2,000 to 3,000), it is useful to provide direct instruction in some words. This includes pre-teaching key vocabulary prior to reading a selection. It is estimated that students can be taught explicitly some 400 words per year in school (Beck, McKewon & Kucan, 2002). Teachers must remember that direct instruction of specific words is only one component of effective vocabulary instruction.

What words should the teacher choose for direct instruction? Teachers should focus on words that are important to the text, useful to know in many situations, and that are uncommon in everyday language but recurrent in books (Juel & Deffes, 2004). The following guide was adapted from J.D. Cooper and used in the Texas Reading Academy (Texas Center for Reading and Language Arts, 2002).

Selecting Vocabulary Words

- Before instruction, preview the text, even when using text that has pre-selected vocabulary words.
- Read the passage and identify vocabulary words you think students will find unfamiliar. Ask yourself: “How difficult is this passage to understand?”
- Select words that are important to understanding the text.
- List words you predict will be challenging for your students. You may not be able to teach all of these words. Research supports teaching only a few words before reading.
- Determine which words are adequately defined in the text. Some may be defined by direct definition and others through context. Expand on these words after reading, rather than directly teaching them before reading.

- Identify words students may know based on their prefixes, suffixes and base or root words. If structural elements help students determine words' meanings, don't teach them directly.
- Consider students' prior knowledge. Words can be discussed as you activate and build prior knowledge. Words can also be extended.
- Determine the importance of the word. Ask yourself: "Does the word appear again and again? Is the word important to comprehending the passage? Will knowledge of the word help in other content areas?"
- Remember, words taught before students read include:
 - Words that will be frequently encountered in other texts and content areas.
 - Words that are important to understanding the main ideas.
 - Words that are not a part of your student' prior knowledge.
 - Words unlikely to be learned independently through the use of context and/or structural analysis.

Adapted from Cooper, J.D. (1997). *Literacy: Helping children construct meaning* (3rd ed.). Boston: Houghton Mifflin.

Once specific words are chosen, the vocabulary instruction must be analytical and substantial for words to "really stick" (Juel & Deffes, 2004). Teachers must provide clear explanations and examples of the meanings of these words in various contexts, and provide students with opportunities to discuss, analyze, and use the words. Simply looking up a definition in a dictionary is not enough. Have students rewrite definitions in their own words, provide examples of situations where the word could be used, supply synonyms (and antonyms when possible) and create sentences using the word that clearly show the meaning. Sometimes it is useful to have students use more than one new word in a single sentence because it forces them to look for relations among words (Stahl, 1999). This kind of direct vocabulary instruction is particularly important for students with learning disabilities (Juell & Deffes, 2004).

Direct instruction of specific words can include teaching the multiple meanings of some words, different word associations (such as antonyms and synonyms), and word concepts (such as related concept words and categories of words).

Analyzing word structure: Teaching word parts

When students encounter unknown words they can use knowledge of word parts (root words, suffixes and prefixes) to help determine the meaning. This is especially true when reading content textbooks because these texts often contain many words that are derived from the same word parts. For example, the Greek root "bio" (meaning "life, living organisms") reappears again and again in a typical middle school life science textbook (e.g., *biology, biologist, biosphere, biodegradable, biochemical, biofuel, biohazard*). Another example is the prefix "mono" (meaning "one, alone, single"). If students are familiar with the meaning of the prefix mono, the prefix "poly" (meaning "many"), and the base word "theism" (meaning "belief in the existence of a god or gods"), they can determine that the difference between "monotheism" and "polytheism" is the difference between believing in only one god or many gods.

Structural analysis of a word draws the student's attention to the individual units of meaning in the word, also known as *morphemes*. A free morpheme, or root word, can stand alone (e.g., *cut*), while a bound morpheme needs to be attached to another morpheme (e.g., *ing, un*), and two free morphemes can combine to form a compound word (e.g., *airplane*) (Blachowicz & Fisher, 2004).

In the beginning stages of reading, rapid and automatic word analysis is essential for developing decoding and fluency skills; at this level, the purpose of word analysis is to identify (sound out) the word. The focus of word analysis for vocabulary is on the meaningful parts of a word to help determine its overall meaning. Some students may not realize that they can use their knowledge about how to divide words into parts to figure out word meanings. There are numerous sources for lists of common root words and affixes (suffixes and prefixes); an internet search can produce useful examples. Two publications to consult for how to teach word parts are "*Morphemes for*

Meaning” by Jane Greene, and “*Vocabulary Through Morphemes*” by Susan Ebbers (both are published by Sopris West, www.sopriswest.com).

It is important to note that struggling readers and students with learning disabilities in particular may be lacking in word analysis skills or the ability to readily learn and apply these skills. This often is part of the reason why they have difficulty reading.

Use of context to determine word meaning

Good readers often use context clues to determine the meanings of unfamiliar words, if they are available in the text. They can locate other words and phrases in a passage that give clues about what an unknown word means. Struggling readers who do not do this should be given direct instruction in how to effectively look for clues or definitions. For example, part of the “Click and Clunk” strategy (Vaughn et al, 2001) teaches students to follow these steps when they come across a word they do not know (described as a “clunk”):

1. Reread the sentence with the clunk. Look for key words.
2. Reread the sentence without the clunk. What word makes sense?
3. Reread the sentence before and after the clunk. Look for clues.

The clues may be any of the following types of information embedded in the text: definition, restatement, example, comparison or contrast, description, synonym or antonym. Expository, non-fiction text (e.g., school textbooks) tends to offer more context clues than narrative story text. One suggestion to help students become more aware of using context is to provide them with the terms “rich context” (has a lot of clues to figure out a word) and “lean context” (not much there to help figure out a word).

It is important to point out that not all contexts are helpful. Contexts vary in their helpfulness of how much information they provide a reader. Sometimes the context provides a direct explanation of the meaning of a new word:

Example: Up to this point we have been referring to the process in which light energy is used to make food simply as the food-making process. But this important process has its own special name: **photosynthesis**. (*In this example, the meaning of photosynthesis is stated directly in the previous sentence.*)

Example: Prince Henry started a school for sea captains. These captains were taught the science of **navigation**. That is, they were taught how to figure out a ship’s location and the direction and distance that it travels. (*In this example, the meaning of navigation is stated directly in the next sentence.*)

Sometimes the context provides some information about a new word, but not enough for the student to be certain of its meaning:

Example: In order to gain active immunity to a disease, one of two things must occur – either you come down with the disease, or you receive a **vaccination**. (*In this example, the student may guess that a vaccination has something to do with preventing disease, but not enough information is provided to discern the full meaning of the word.*)

Example: Cartier found the mouth of a large river, which he named the St. Lawrence River. He sailed up this river until he came to a **rapid**. Ships cannot pass across a rapid. Disappointed, Cartier had to turn back. (*In this example, the student may guess that a rapid is something in a river that prohibits a ship from passing, but not enough information is provided to identify specifically what is impeding the ship’s progress.*)

Finally, sometimes the context can actually lead to a misunderstanding, referred to as a “misdirective” (Beck, McKeown & Kucan, 2002):

Example: Sandra had won the dance contest, and the audience’s cheers brought her to the stage for an encore. “Every step she takes is so perfect and graceful,” Ginny said grudgingly as she watched Sandra dance. (Beck, McKeown & Kucan, 2002, p.4). (*In this example, the context might lead the reader to*

believe that Ginny liked or admired Sandra's dancing, when in fact grudge means "a feeling of resentment or ill will".)

Students need to learn an alternative strategy if the context is nondirective or misdirective, most likely going to a source that provides information about words, such as a dictionary.

Teach how to effectively use a dictionary

For many years, the practice of having students look up words, write down definitions, and memorize those definitions was the main strategy teachers used to teach vocabulary. We now know that having students follow this practice is one of the least effective strategies. In fact, there is a great deal of research showing that children cannot use conventional definitions to learn words (Scott & Nagy, 1997). That does not mean that students should not use dictionaries; however, their use should be limited and students must be taught how to use a dictionary and choose the right definition.

Students need explicit instruction in how to use what they find in a dictionary entry so they are able to transfer that information into something useful. Students may be confused by different meanings for the same word, or the wording in a dictionary entry may be too difficult to read or understand. The following suggestions were adapted from the Texas Center for Reading and Language Arts (2002):

To choose the right definition, the student must:

- Use background knowledge about the content in the text
- Have a sense of the grammatical use in the text
- Read and understand each definition

As noted earlier, to remember the meaning of a new word, it is better for students to reword the definition in their own words, to identify synonyms and antonyms for the word, to use the word in their own meaningful sentence, and to recognize that the word may be used differently in other contexts.

Struggling readers and students with learning disabilities in particular have difficulty using a dictionary. The process is slow and labored, often making the time it takes to look up a word frustrating and not worth the effort. These students tend to have a poor sense of the order of the letters in the alphabet, and they have significant difficulty "skimming" down a list of words that are visually similar. Once they locate the word, they tend to be overloaded with the amount of information and reading level of the words in the entry. For non-readers, the task is impossible.

The key thing to remember about using a dictionary is that research supports combining both the definitions of new words with the context in which the words are used (Texas Center for Reading and Language Arts, 2002).

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