

Why Teach Vocabulary?

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Studies have shown that reading comprehension and vocabulary knowledge are strongly correlated,¹ and researchers have found that word knowledge in primary school can predict how well students will be able to comprehend texts they read in high school.² Limited vocabularies prevent students from comprehending a text.

Poor readers often read less, because reading is difficult and frustrating for them. This means they don't read enough to improve their vocabularies, which could, in turn, help them comprehend more. This perpetuating cycle can mean that as students continue through middle school and high school, the gap between good and poor readers grows wider.

Direct instruction in vocabulary can help arrest this cycle. Good readers often acquire much of their vocabulary through wide independent reading, also known as incidental learning. However, explicit instruction can help students learn enough words to become better readers (and thus acquire even more words). Direct vocabulary instruction is useful for students at all ability levels, but it is particularly useful for beginning students who have a limited reading vocabulary and little exposure to incidental vocabulary learning outside of school.

The average student learns about 3,000 words a year, or six to eight words per day—a remarkable achievement! If students are taught new words at a rate of eight to ten words per week for 37 to 50 weeks, about 300 to 500 words per year can be taught through direct instruction.³ This leaves a large portion of words to be learned through independent reading, which is essential to acquiring word knowledge.

Although the percentage of words learned through direct instruction may seem small, it is significant. Steven A. Stahl has pointed out that for students at the lower end of the vocabulary range, who learn perhaps 1,000 words a year, a gain of 300 words equals a 30 percent increase, and that for average students a gain of even 10 percent is educationally significant—especially if it is repeated year after year.⁴ Experts agree that a combination

of direct instruction of word meanings, discussions about words and word parts, and encouragement of wide reading is the best way to help students develop vocabulary.

How Direct Instruction Can Help Students Who Start with Smaller Vocabularies

Students come to school with greatly varying vocabularies. Some will know thousands more word meanings than other students in your class. This occurs in part because of the differences in the number of new words students are exposed to in their homes and communities. Students who come from homes where spoken and written vocabularies are limited will know fewer words than students who come from homes where exposure to a wide range of vocabulary is common. Arriving in class with a small vocabulary does not predict failure—it only highlights the need for direct vocabulary instruction in the schools. As one researcher put it:

If we are serious about “increasing standards” and bringing a greater proportion of schoolchildren to high levels of academic accomplishment, we cannot continue to leave vocabulary development to parents, chance, and highly motivated reading.⁵

Studies have shown that the key to increasing vocabulary is exposure to new words—not an innate ability to learn from context.⁶ Experts emphasize that vocabulary development is an attainable goal. If given the opportunity to learn new words as well as effective instruction, most students can acquire vocabulary at rates that will improve their comprehension. This enables them to read increasingly challenging texts with fluency and better their chances for success in school and afterward.

What Should Direct Instruction Include?

So, how do we teach students to acquire words? According to various authorities, effective vocabulary instruction should include the following three components:

1. definitional and contextual information about a word
2. multiple exposures to a word in different contexts
3. encouragement of students’ active participation in their word learning⁷

Definition and Context

Traditionally, vocabulary instruction has focused on having students look up word meanings and memorize them. This teaching approach, however, provides only superficial and short-term learning of words. Students who simply memorize word meanings frequently have trouble applying the information in definitions and often make mistakes about the meanings.⁸

To know a word, students need to see it in context and learn how its meaning relates to the words around it. An approach that includes definitions as well as context can generate a full and flexible knowledge of word meanings. When students are given several sentences that use a word in different ways, they begin to see how a word's meaning can change and shift depending on its context. For example, consider the changes in the word *got*, as it appears in the following sentences:

Emilio got a cold.
Emilio got rich.
Emilio got a note from Dashiell.
Dashiell got in trouble.

Although in most of these examples *got* conveys the idea of receiving, the meaning is slightly different in each one. Students need to see words in different contexts in order to learn them thoroughly.

Repeat, Repeat, and Repeat

Students benefit from seeing the same word several times. Word meanings are accumulated gradually. A word that is encountered once has about a 10 percent chance of being learned from context.⁹ When students see a word repeatedly, they gather more and more information about it until they acquire an idea of what it means. Dale and O'Rourke have summarized the four stages of word knowledge as follows:

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.¹⁰

The more exposure students have to a word, the more likely it is that they will be able to define, comprehend, and remember it; good vocabulary instruction builds repetition into the learning process, so that students can learn more words more quickly. Using and applying several examples of a word in different contexts reinforces word knowledge.

You Can Do It! Emphasizing Active Processing by Students

Students remember words better when they connect new meanings to knowledge they already have. This type of active processing occurs when students work with words in some of the following ways:

- produce antonyms and synonyms
- rewrite definitions
- identify examples and non-examples of the word
- use more than one new word in a sentence
- create sentences that contain the new word
- create scenarios or stories in which the word is used
- create silly questions using the word¹¹

Each of the above activities reinforces definitional or contextual information about the word and gives students a chance to own the word for themselves. Group discussion of word meanings also helps students learn new vocabulary by having to actively participate in their own learning.

General Strategies and Specific Techniques for Teaching Vocabulary

Effective vocabulary development is a multifaceted process requiring a combination of direct instruction, discussion, and active encouragement of independent learning strategies. On their own and in the classroom, students draw on a variety of methods to learn the thousands of words they acquire each year. The following are some general strategies and specific techniques to keep in mind as you teach vocabulary:

1. Encouraging Wide Reading

Getting your students to read more may be the most valuable thing you can do to improve their vocabulary. Although direct instruction plays a crucial part in vocabulary growth, most of the words your students learn will be acquired through incidental learning, as they read on their own. Evidence shows that wide reading is the main avenue for students' word acquisition. Researchers present the following scenario to demonstrate the effectiveness of wide reading:¹²

- If, over a school year, a fifth-grader reads for an hour each day, five days a week, in and out of school at a conservative rate of 150 words per minute, the student will encounter 2,250,000 words in the course of reading.
- If 2 to 5 percent of the words the student encounters are unknown words, he or she will encounter from 45,000 to 112,500 new words.
- We know that students learn between 5 and 10 percent of previously unknown words from a single reading. Using the lower number given above for unknown words encountered during the reading program, we see that a student would learn at least 2,250 new words from context each year.

To be truly beneficial, wide reading should include texts with varied levels of difficulty. Students reading at or below their current levels will not dramatically increase their vocabulary. When students read texts that consist primarily of unknown words, they usually become frustrated. To help them get the most out of incidental learning, they should read some books for fun and others for a challenge.

Motivating students to read can be a difficult task. Here are a few suggestions for making reading appealing to students at all ability levels:

- Devote some class time to independent silent reading. This time may be particularly helpful for students who have never done extensive reading for pleasure. Reading for a length of time in class will enable students to do this on their own outside of class.
- Make a variety of books available in class and recommend books for students to find in the library and to read outside of class.
- Promote social interactions related to reading. Setting a time for regular book discussions will motivate students to read more and help them understand their reading better.
- Model the importance you place on reading by telling students about books you are reading. When students have silent reading time, read a book of your own to show that reading is a valuable activity that you enjoy, too.

2. Emphasizing Learning from Context

Most of the words acquired through incidental reading are learned through context. Students learn from context by making connections between the new word and the text in which it appears. They also learn words through repeated exposures, gaining more comprehension of a word's meanings and functions by seeing it several times in different contexts.

Experts debate the effectiveness of teaching students how to use context

clues. While some studies show that teaching students how to identify and use context clues is an effective technique for increasing vocabulary,¹³ other research suggests that learning words from context is an innate skill that all readers use. Kuhn and Stahl have found that children of all abilities learn at the same rate from context; that is, advanced readers are no more efficient at learning from context than less advanced readers—the advanced readers simply read more.¹⁴ All experts, however, stress that it is crucial to make students aware of the importance of using context clues as an essential tool in word acquisition.

Here are some techniques for enhancing students' awareness of the importance of context clues:¹⁵

- Model basic strategies for using context clues when reading text.
- Provide explanations of how, when, and why to use context to figure out word meanings.
- Provide guided practice in using context.
- Remind students to apply the skill when reading on their own.

You can also use activities such as the Word Wizard chart (developed by Beck, et al.) to make students aware of learning words in context.¹⁶ As you discuss unfamiliar words in class, you can add them to the chart. If a student comes across the word again when reading and notes its context, his or her name goes up on the chart. You can provide students with periodic rewards for being Word Wizards (that is, contributing many words to the chart).

Another way to emphasize the importance of learning from context is to have students rate their knowledge of a new word by using a checklist such as the following:

Knowledge Rating Checklist
How much do I know about these words?

	Can define	Have seen/heard	Don't know
claustrophobia		✓	
colleague	✓		
contingent			✓
deluge		✓	
dispel	✓		
fledgling	✓		
inane			✓
mettle		✓	
replica	✓		

These checklists can also be used in group activities in class. You may want to have students keep these checklists together in a notebook along with a running list of words they come across that intrigue or interest them. Encouraging a general awareness of words as fun and interesting in themselves will help students pursue their own vocabulary development.

Using context is an important skill that students will employ frequently. However, in learning when to use context clues, students also need to know when *not* to use this strategy. Since many texts do not signal the meanings of words explicitly, using context is not always the best way to derive the meanings of new words.

3. Using Prefixes, Suffixes, and Roots

Experts have noted that the upper elementary grades are a good time to start teaching students how to use word parts to figure out the meanings of words.¹⁷ Information from prefixes, suffixes, and roots can help students learn and remember words; using word parts can be a particularly useful strategy in reading content-area texts. For example, science texts often include words that use the same word parts repeatedly, such as *bio-* in *biosphere*, *biology*, *biodegradable*, *bioluminescence*, and *biochemical*. Knowing that “bio” means life can help students recognize these words in context and add to their comprehension of these words. (This particular root will also help students learn words across content areas. For example, in language arts students will encounter words such as *biography*.)

You can begin to teach word-part strategy by telling students that words can be composed of affixes—prefixes and suffixes—and roots. Learning to break words into affixes and roots will make some long words more manageable for students who may be intimidated by the length of words such as *interdependent*. Modeling how to break words into parts may be necessary. To do this, you can teach them to cover prefixes such as *inter-* in the word *interdependent*, and see if they recognize the rest of the word. Then you can have them cover the suffix *-ent*, leaving *depend*.¹⁸ Further modeling and practice with adding and removing prefixes and suffixes such as *un-* and *-able* will give students facility with breaking words down into parts.

In teaching word parts, you should stress how the parts function to affect word meaning. You may want to point out that prefixes such as *un-*, *super-*, *anti-*, *mis-*, and *sub-* change the meanings of the roots they precede in predictable ways. Since prefixes are consistently defined, you may want to supply definitions of the prefixes given in the table below.

Suffixes have less stable meanings, but learning to recognize common suffixes such as *-tion*, *-less*, *-ed*, and *-ing* will help students know a word’s function. For example, remembering that *-tion* indicates the word is a noun and

The Most Frequent Affixes in Printed School English¹⁹

Rank	Prefix	% of All Prefixed Words	Suffix	% of All Suffixed Words
1.	<i>un-</i>	26	<i>-s, -es</i>	31
2.	<i>re-</i>	14	<i>-ed</i>	20
3.	<i>in-, im-, il-, ir- (not)</i>	11	<i>-ing</i>	14
4.	<i>dis-</i>	7	<i>-ly</i>	7
5.	<i>en-, em-</i>	4	<i>-er, -or (agent)</i>	4
6.	<i>non-</i>	4	<i>-ion, -tion, -ation, -ition</i>	4
7.	<i>in-, im- (in)</i>	3	<i>-able, -ible</i>	2
8.	<i>over-</i>	3	<i>-al, -ial</i>	1
9.	<i>mis-</i>	3	<i>-y</i>	1
10.	<i>sub-</i>	3	<i>-ness</i>	1
11.	<i>pre-</i>	3	<i>-ity, -ty</i>	1
12.	<i>inter-</i>	3	<i>-ment</i>	1
13.	<i>fore-</i>	3	<i>-ic</i>	1
14.	<i>de-</i>	2	<i>-ous, -eous, -ious</i>	1
15.	<i>trans-</i>	2	<i>-en</i>	1
16.	<i>super-</i>	1	<i>-er (comparative)</i>	1
17.	<i>semi-</i>	1	<i>-ive, -ative, -tive</i>	1
18.	<i>anti-</i>	1	<i>-ful</i>	1
19.	<i>mid-</i>	1	<i>-less</i>	1
20.	<i>under- (too little)</i>	1	<i>-est</i>	1
	<i>All Others</i>	3	<i>All Others</i>	1

that *-ed* usually forms the past tense of verbs can make it easier for readers to figure out words using these suffixes.

Once students have grasped the concepts of prefixes, suffixes, and roots, you can easily teach them specific word parts. Only 20 prefixes make up 97 percent of the prefixed words in printed school English. Sixty-five percent of suffixed words end in *-s, -es, -ed, or -ing*.²⁰ The preceding table shows a list of the most commonly used prefixes and suffixes in printed school English. Teaching your students just a few of these affixes can dramatically improve their vocabulary development. One study found that third graders who were taught the first nine prefixes in the chart and how to break down words into roots and suffixes outperformed a control group tested in measures of word meaning.²¹

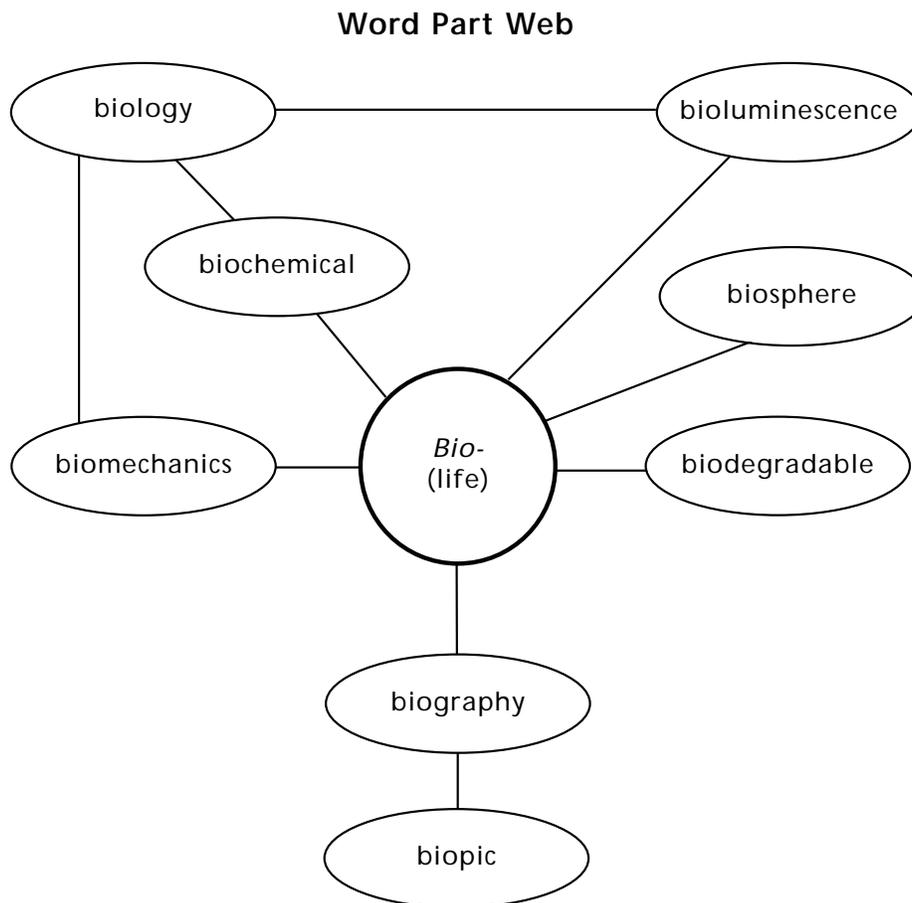
Many lists containing hundreds of Greek and Latin roots are available, but teaching the meanings of roots may not be as useful to your students as

teaching the affixes. Some researchers have pointed out that the current meanings of many words do not resemble their historical roots. Trying to apply the ancient meanings of roots to figure out the meanings of words used today may only confuse students.

However, telling students about the roots of words they are learning can help make those words more memorable by adding a story to what they know. For example, the following account of the origin of *miniature* from *Wordly Wise 3000* Book 3, reinforces the word's meaning:

The word **miniature** comes from the Latin *miniare*, which means "to color in." Before printing was invented, books were written a page at a time with pens and ink. Pictures in them, usually quite small, were painted by hand. The word *miniature* came to mean "a very small picture." Its meaning was later extended to mean anything very small, especially a small portrait or a small copy or model of a larger object.²²

In content areas such as science, it may be useful to have students memorize roots that recur. Using word webs like the following can reinforce the relations among words incorporating these roots:



The strategy of using word parts is probably most effective when combined with other ways of acquiring words, such as context clues. Knowing how to break down words into parts will make them easier to tackle; learning prefixes, suffixes, and some roots will give students more tools for vocabulary growth.

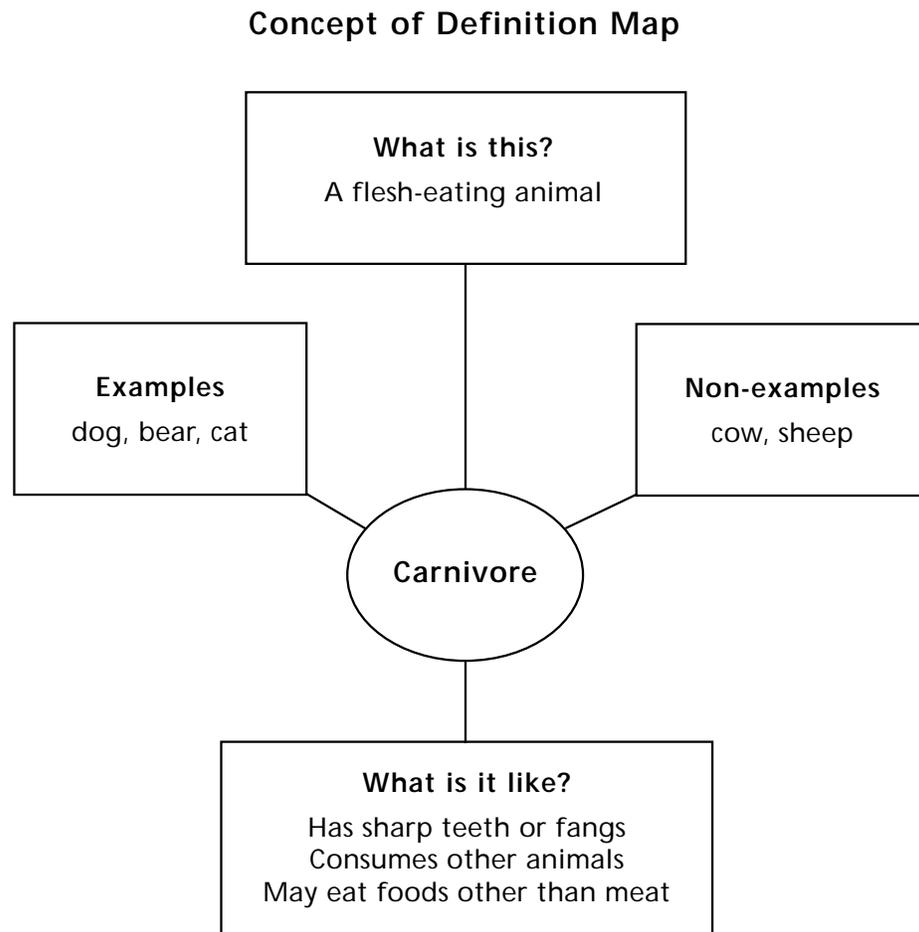
4. Using Graphic Organizers

Encouraging wide reading, using context, and employing word parts are excellent long-term strategies for vocabulary development. The following are some additional activities that can deepen your students' word knowledge and expand your direct instruction of vocabulary.

Concept of Definition Maps

Concept of definition maps such as the following are graphic organizers that show the elements of a typical dictionary definition, including:

- The category to which the word belongs, labeled, "What is this?"



- Characteristics of the word, labeled, “What is it like?”
- Examples and non-examples of the word.²³

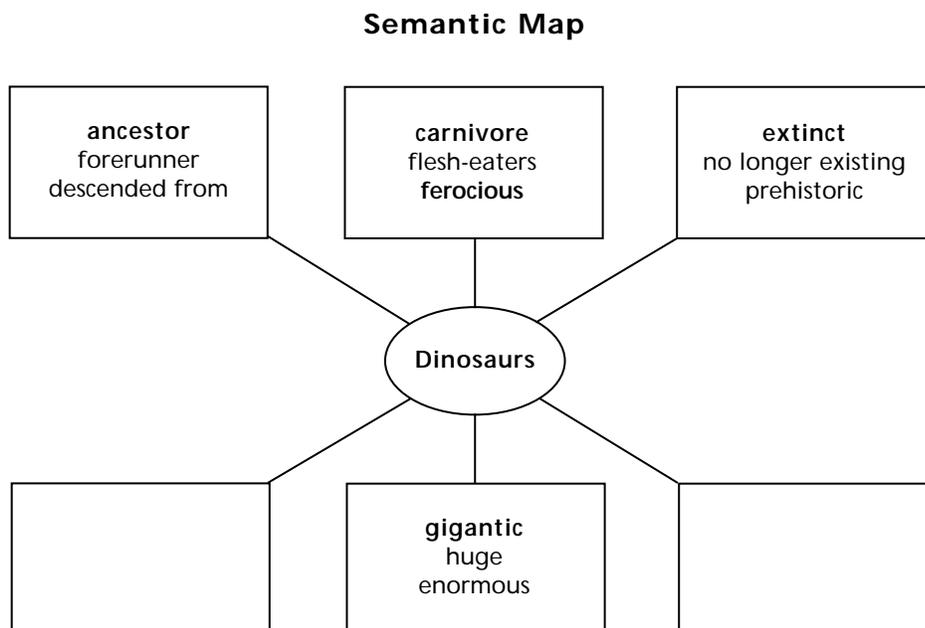
Students fill in the maps by referring to context, using their prior knowledge, and consulting dictionaries. The following map elucidates the meaning of *carnivore*.

After having the class complete the map, you may want to model how to write a definition using the information in the map. For example, you could say: “A carnivore is a mammal that eats flesh. A carnivore has fangs and consumes other animals. It may sometimes eat food that is not meat. Dogs, cats, and bears are some types of carnivores.” You can also have students write their own definitions and then confirm them by looking the word up in the dictionary. They may revise their definitions after looking them up.

Semantic Maps

Semantic maps can be used to develop students’ understanding of a particular concept or group of thematically related words.²⁴ For example, in teaching about dinosaurs, you might target the following vocabulary words: *ancestor*, *carnivore*, *gigantic*, *extinct*, and *ferocious*. Then, begin instruction by having students brainstorm words related to the concept of dinosaurs. As they brainstorm, list their words on the board, making sure to include the targeted words.

Discussion is key to semantic mapping. During the brainstorming session, have students discuss and define all of the words on the list. Help students refine their understanding of the words by asking them to group related words together to create a semantic map such as this one:



The target words are highlighted, and sections are left blank so that the class can fill in other categories after reading the selection. Semantic mapping is a good technique to use in content-area teaching, in which vocabulary words are thematically related. The technique works best as a group activity, since discussion helps students with smaller vocabularies learn all the words that are talked about. Advanced learners will benefit from the extra exposure to words they have already learned.

Semantic Feature Analysis

Another good technique to use in teaching words that share content is semantic feature analysis, which makes use of a grid, such as the following.²⁵ The left-hand column contains the names of members of the category. For a unit on living creatures, you might write words such as: *dog, cat, hamster, tiger, buffalo, sparrow, and horse*. The top row of the grid lists features of the category's members such as: *has fur, has feathers, can fly, can be a pet, and runs on four legs*. Students should be encouraged to add terms to either the column or the row during discussion.

Semantic Feature Analysis

	has fur	has feathers	can fly	can be a pet	runs on four legs
dog	+	-	-	+	+
cat	+	-	-	+	+
hamster	+	-	-	+	+
buffalo	?	-	-	-	+
tiger	+	-	-	-	+
sparrow	-	+	+	-	-
horse	?	-	-	?	+

After seeing the grid, groups of students or the whole class discusses whether the items in the column are an example of the features across the top, marking + for positive examples, - for negative examples, and ? for words that *might* be examples.

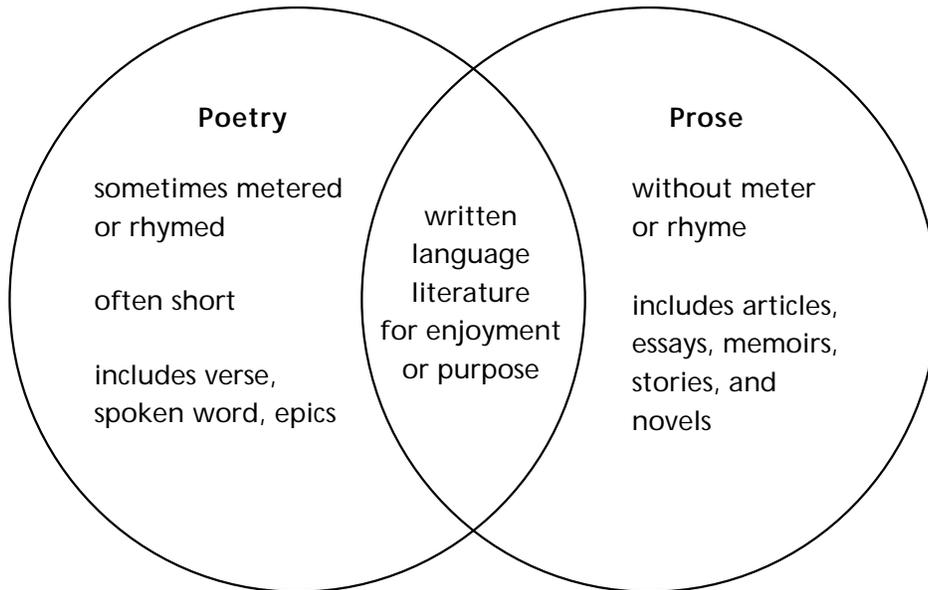
As with semantic maps, discussion is key to clarifying the meanings of words in this activity. It is also an excellent technique to use in content areas such as social studies and science.

Comparing and Contrasting: Venn Diagrams

Venn diagrams are another good graphic organizer to use, especially when teaching students to compare and contrast related concepts such as *trip*

and *sojourn*, *virus* and *bacteria*, *nation* and *country*, and *poetry* and *prose*. The following diagram helps to clarify the similarities and differences between two related ideas:

Venn Diagram



Using graphic organizers will provide your students with more exposures to words they are acquiring and will help them solidify the knowledge they've gained.

5. Extending Instruction through Reading Aloud and Discussion

Although researchers have shown that it is the volume of reading rather than oral language that is the prime contributor to differences in students' vocabularies past the fourth grade,²⁶ reading aloud to your students can also help them acquire words. Reading literature to students exposes them to rich language that they usually do not hear in everyday speech. Researchers have found that sixth graders learned about as many words from a single listening as they would from a single reading.²⁷ Reading aloud can be a good strategy to use with students who have smaller vocabularies, although even advanced and older students will enjoy the activity.

Discussion can greatly enhance any vocabulary instruction. Students with small vocabularies benefit from the knowledge contributed by their classmates, and misunderstandings of words can be cleared up publicly. In addition, as students wait to be called on, they often practice responses silently. As a result, discussion reinforces vocabulary development.²⁸ Discussions can be made more fun by having students act out or pantomime words or engage in debates about word meanings.

Since vocabulary growth is such a long process, drawing on a variety of approaches helps to prevent boredom. Some words require much more detailed instruction than others; certain activities such as semantic maps work best with words that are related in meaning. As you experiment with the strategies and techniques just described, you will be able to determine which ones will best help your students.

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Working together as Anaxos Inc., the Johnsons have written numerous student books with a strong focus on vocabulary. They authored the *Wordly Wise 3000* test series for EPS.

Endnotes

- ¹ Stahl, 3; Southwest Educational Development Laboratory, 14.
- ² Biemiller, 24.
- ³ Stahl, 9; Texas Reading Initiative, 5–6.
- ⁴ Stahl, 30.
- ⁵ Biemiller, 28.
- ⁶ Stahl, 12.
- ⁷ Stahl, 30; Texas Reading Initiative, 20.
- ⁸ Texas Reading Initiative, 8.
- ⁹ Hunt and Beglar, “Current Research and Practice in Teaching Vocabulary,” 1.
- ¹⁰ Stahl, 15.
- ¹¹ These activities were listed in two sources: Stahl, 31–32, and Texas Reading Initiative, 21–23.
- ¹² Texas Reading Initiative, 14.
- ¹³ Texas Reading Initiative, 19.
- ¹⁴ Stahl, 11 and 28–29.
- ¹⁵ Texas Reading Initiative, 20.
- ¹⁶ Stahl, 29.
- ¹⁷ Biemiller, 28.
- ¹⁸ Texas Reading Initiative, 40.
- ¹⁹ Stahl, 46.
- ²⁰ Texas Reading Initiative, 36–38.
- ²¹ Stahl, 45.
- ²² *Wordly Wise 3000*, Book 3, 145.
- ²³ Texas Reading Initiative, 28; Stahl, 43.
- ²⁴ This section is adapted from Stahl, 37–39, and Texas Reading Initiative, 30 and 31.
- ²⁵ Stahl, 39–40; Texas Reading Initiative, 32–33.
- ²⁶ Southwest Educational Development Laboratory, 14.
- ²⁷ Stahl, 13.
- ²⁸ Stahl, 34.

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