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Words are wonderful: Interactive, time-efficient strategies to teach meaning vocabulary

This article presents strategies for introducing and practicing meaning vocabulary.

In order to comprehend, students must know the meanings of the words they read. Yet too often, vocabulary instruction is tedious and ineffective. In this article I suggest ways to help students experience success and enjoyment in learning vocabulary. These strategies have been used from kindergarten through college; in whole classes, small groups, and special settings; in Spanish and English; and internationally. The engagement that students experience results in enhanced learning as well as a sense of excitement about words. Two strategies, Semantic Impressions and Word Expert Cards, help teachers to introduce words. Four additional techniques—Anything Goes, Connect Two, Two in One, and Find That Word—provide the motivation and practice that help students become comfortable using new vocabulary in reading, writing, and speaking.

How important is meaning vocabulary?

The influence of meaning vocabulary is one of the most enduring findings of educational research. Vocabulary knowledge is among the best predictors of reading achievement (Daneman, 1991). The National Reading Panel (National Institute of Child Health and Human Development [NICHD], 2000) has affirmed the prominence of

vocabulary in the reading process. Differences in children's vocabularies develop even before school begins and are key to inequality of educational attainment (Hart & Risley, 1995).

While a substantial amount of general vocabulary is acquired through wide reading, it is also important for teachers to address word learning directly (Baumann, Kame'enui, & Ash, 2003). The school curriculum is filled with challenging new words. Novels, social studies texts, and science experiments all have vocabulary that needs to be mastered before students can comprehend and learn. Direct instruction in word meanings is effective, can make a significant difference in a student's overall vocabulary, and is critical for those students who do not read extensively (Beck, McKeown, & Kucan, 2002).

One instructional practice is to have students look words up in a dictionary, copy or restate definitions, and then create sentences using the words. However, students often cannot understand the definitions that dictionaries, even children's dictionaries, present (McKeown, 1993). I have seen fifth graders copy "the state in which" as the complete definition of a noun. Students may not know how to choose the appropriate definition for a word that has multiple meanings. When working from misinterpreted definitions, the sentences students create are often unfortunate and frustrating to read.

How can teachers more effectively teach meaning vocabulary? Studies show that words should be processed deeply and repeatedly by students (Mason, Stahl, Au, & Herman, 2003; NICHD, 2000). Words are typically learned gradually (Baumann et al., 2003), and the more actively

and deeply students process words, the better they learn them (Blachowicz & Fisher, 2000; Stahl & Fairbanks, 1986). Activities using words in games, connecting words, and manipulating words creatively result in excellent student learning (Beck et al., 2002). When students are having fun, they are motivated to learn.

Ways to introduce words

The task of learning words is large and important, so why not make it fun, interactive, and empowering as well? Two word introduction strategies that foster engaged learning are Semantic Impressions and Word Expert Cards.

Semantic Impressions

In this strategy, originally called Story Impressions (McGinley & Denner, 1987), students internalize meanings by using words in a certain order to compose their own story before they read a published story. To do this, the teacher chooses key words from a story or book chapter and lists them in the order (or approximate order) they appear in the published story. Try to choose words that are central to the plot, for these are the ones students will later need for successful comprehension. However, an occasional “fun” word can be included. The list is usually from 5 to 20 words long.

Write the words vertically on a board or overhead. Then briefly discuss each one, asking if anyone knows what it means or can use it in a sentence. Typically, when a class pools its knowledge, something is known about each word. You can build upon this, refining concepts and supplementing definitions. However, definition work should not be time consuming because students may need words redefined as they compose their Semantic Impressions story.

Next, tell the students that they are going to compose a story using these words. The words must be used in the order they appear, but after a word has been introduced it may be used again. Other forms of the word may be used; for example, *important* instead of *importance* may be written into the story.

Then, working as a group, students compose a sensible—if at times fanciful—story using the words. With teacher guidance, the class creates a

narrative that has a beginning, middle, and end. If the story gets off track, gently coach the students to think about a problem and a solution and to compose a story. Primary students often personalize their creations by using class members as story characters. Because the words have been chosen from an existing narrative, students will be able to compose a meaningful story without the forced use of words. In fact, I have found that the stories flow quite naturally. At times, you will need to clarify the meaning of a word before students can use it. At other times, so many different scenarios will be advanced that you will need to help students choose from a wealth of ideas. As the group gives its story, write it on a board or an overhead for all to see. The process can almost always be completed within 20 minutes and thus requires no more time than more commonly used strategies for word introduction. When it is finished, the class may choose to give their creation a title.

After completing a Semantic Impressions story, reread it, helping the class to revise and edit. This usually begins with fixing mechanical problems in spelling, punctuation, and grammar. However, it often proceeds to adding “juicy” details and adjectives, combining short sentences, paragraphing, and providing motives for actions in the story. My classes have added prequels and epilogues. Of course, this work provides experience and modeling for revision.

Semantic Impressions is vocabulary learning at its most active. Students internalize words they will later read by weaving them into personalized narrative. The rich associations to this narrative make word meanings memorable. New concepts are clarified as students use them. In short, Semantic Impressions provides active, engaged, and joyful vocabulary learning. Table 1 presents reading specialist Rachel Hogan’s directions for teachers using Semantic Impressions.

It should be noted that Semantic Impressions has benefits beyond learning vocabulary. The strategy improves students’ abilities to write and revise sensible narratives. They develop pride of authorship in a story that contains “their” words. They anticipate how words will be used in the story they will read. Finally, as students read the published story, they deepen word meanings by comparing the use of words in the two narratives.

TABLE 1
Directions for Semantic Impressions

- Choose between 5 and 20 words that are central to the plot of a narrative (story, chapter book).
- List these words, in the order they appear in the story, on a chalkboard or overhead. (The order of one or two may be changed if desired.)
- Tell students that as a group they will compose a sensible story based on these words. Advise them that the story should have a beginning, middle, and end (or problem and resolution).
- Briefly go over the meaning of each word on the list, encouraging student contributions.
- Discuss three rules:
 1. Words must be used in order.
 2. Once a word is used, it can be reused.
 3. The form of words (plurals, tenses, parts of speech) can be changed.
- As students give oral contributions, write their Semantic Impressions story on the chalkboard or overhead. (Note that the word list, as well as the story, is displayed.)
- As you take down oral student contributions, help students to formulate a cohesive narrative with a sensible flow. Student sentences may be combined.
- When the story is finished, the class may choose to edit it.
- Have the students read, or listen to, the published narrative.

As students become familiar with the process, I add new challenges. Sometimes, I use particularly difficult story words. Working with third graders to introduce a story about the eruption of Mt. Vesuvius in Italy, I included the words *shepherds*, *weavers*, and *peddlers* on the list to deepen students' knowledge of life in ancient times. Using a trade book, *The Ballad of Belle Dorcas* (Hooks, 1990) to supplement fourth-grade social studies, I included the terms *Tidewater Region* and *Deep South*, allowing students to review important geographical concepts.

Many classes want to make books from their Semantic Impressions stories. These books become welcome additions to the classroom library. For primary students, I write each sentence of the story on a separate sheet of paper and then assign two students to illustrate each page. For intermediate-grade students, class members illustrating books must first agree on the setting and appearance of

the characters so that the pages of their book will be consistent.

After doing a class Semantic Impressions story, students often ask if they can compose their own. To do this, they work independently or in pairs, creating other original stories from the word list. This provides additional practice with vocabulary. As students become more skilled, teachers can make the task more advanced. Teacher Gary Riskin asked his second graders to compose Semantic Impressions stories in specific genres, such as mystery and adventure.

Although Semantic Impressions is usually done in preparation for reading, it also is excellent preparation for a listening experience. Children can do a Semantic Impressions story and then experience a teacher read-aloud.

What do Semantic Impressions stories look like? To introduce *Cloudy With a Chance of Meatballs* (Barrett, 1978) for a reading lesson, I chose the following words and phrases:

- | | |
|--------------------------|------------------------------|
| 1. pancakes | 7. took a turn for the worse |
| 2. weather | 8. damaged |
| 3. rain | 9. abandon |
| 4. snow | 10. new land |
| 5. prediction | 11. supermarket |
| 6. sanitation department | |

Working with two classes of third-grade students who spoke English as a second language, the following stories emerged:

Class one: "A Day of Snow"

Yesterday I woke up at 5 a.m. and I ate *pancakes*. That morning the *weather* was very cold. It was so cold that the *rain* became ice and *snow* covered the streets. The weather *prediction* was wrong because they had predicted a sunny day. The *pancakes* didn't fill me, so I was still hungry. I called the *sanitation department* to move the *snow* so I could go out and buy food. The *weather* took a turn for the worse so the *sanitation department* got stuck in the *snow*. Their truck's motor was *damaged* by the *snow*, so they had to *abandon* it. A day later, the *snow* melted. When the *snow* melted, the place looked like a *new land*. I was very happy because I could go to the *supermarket*.

Class two: "A Lady Who Loved Pancakes"

Once upon a time there was a little lady who loved *pancakes*. When she ate them, she could tell what the *weather* would be. One day she ate *pancakes* and said

"Today it will *rain*." When people heard, they got out their umbrellas and went inside. Later it got colder and started to *snow*. Her *prediction* was wrong, and people got mad. The next day, the *sanitation department* started to remove the *snow*. The people's anger *took a turn for the worse* and they *damaged* her house. So she had to *abandon* the city and move to a *new land*. She built a house next to a *supermarket*. One day she wanted to taste something else like *pancakes*, so she asked the man at the *supermarket* for a similar food. The man said "Why don't you try waffles?" She ate waffles, *predicted* the *weather* again, and she was right. Afterwards, she continued to eat waffles and always *predicted* the *weather* right.

Semantic Impressions is an effective, as well as time-efficient, strategy. In one study, two third-grade classes of equivalent achievement were compared in their abilities to learn vocabulary in *Brave Irene* (Steig, 1986). Overall achievement at the school in this study was slightly below national norms, with 45% of children achieving at or above grade level on the Iowa Test of Basic Skills. The school has a diverse population, with a significant number of students who speak English as a second language. Third-grade teachers Jennifer Toomey and Jolene Biesack participated. One used the Semantic Impressions strategy for word introduction; the other introduced the words through discussion using word cards. They each spent about 20 minutes on the strategy. A multiple-choice posttest of words showed that the Semantic Impressions group knew 91% of the words, as compared to a 73% mastery rate for the discussion group. A two-sample *t* test revealed that the difference between the two treatments was highly significant ($t = 3.96$, $df = 39$, $p < .001$). To make sure that this effect was not due to differences in the general vocabulary knowledge of the students, an analysis of covariance was performed using the vocabulary subtest percentile of the Iowa Test of Basic Skills, an indicator of general vocabulary mastery, as a covariate for each student. This analysis of covariance also showed a highly significant difference between the two classes ($t = 3.91$, $df = 35$, $p < .001$) and indicates that, when student achievement is controlled for, the Semantic Impressions strategy remains effective.

As students weave Semantic Impressions stories that contain challenging words, they broaden their vocabularies, prepare to read with comprehension, and deepen their understandings of narrative

elements. Most of all, they experience vocabulary learning that is fun.

Word Expert Cards

When students read a novel or a unit in social studies or science, they often need to master many words. How can this be done effectively? A system first published by Lansdown (1991) gives each student the job of being a Word Expert for just a few of the many words to be learned. In this strategy, students construct cards, gaining experience in interpreting dictionary definitions. Then, students teach one another the words. Finally, when students see the words in the context of a novel or a unit of study, meanings are reinforced and deepened. Word Expert Cards combine direct vocabulary instruction, word study in context, and peer teaching.

The teacher begins by identifying a master list of key words. Choose words that are of general use, as well as those important to the novel or unit of study. My list generally contains 50 to 100 words. Before the novel or unit of study begins, each student is assigned two or three Expert words from the list. Each student has different words so, in total, all of the words are assigned. I also give students a page number from the novel or text where they can locate their words.

Students then start making Word Expert Cards for their two or three personal words. A piece of construction paper is folded in half and the student begins work on the inside of the card. (At times, I ask students to use scratch paper and copy work onto their card only after I have approved it.) First, the student writes the word. Then he or she copies a sentence from the book that contains the word. (The page number given by the teacher helps the student to locate the word.) Next, the student looks up the word in a developmentally appropriate dictionary and finds the part of speech and meaning that matches the way the word is used in the copied sentence. The student will sometimes need to determine the root form of a word to locate a definition. For example, to find the word *smuggling*, the entry for *smuggle* must be used. The student puts the definition in his or her own words. Finally, the student writes a personal sentence for the word. Throughout the process, students are encouraged to consult one another. (See

TABLE 2
Directions for Word Expert Cards

- Use the page number to locate the word in the story.
- Copy the sentence containing the word inside the card.
- Use a dictionary to look up the definition for each word; you may discuss it with others.
- On scratch paper, write the part of speech and the definition in your own words that matches the use of the word in the story.
- On scratch paper, write your own sentence using the word.
- Get the definition and sentence approved for accuracy by the teacher.
- Copy onto the inside of your card the approved definition, part of speech, and sentence.
- Write the vocabulary word on the front outside of the card in big bold letters.
- On the front of the card, illustrate the vocabulary word neatly and creatively. Get your illustration approved.
- Write your name, word, and class period on the back side of the card.
- Completed cards must be turned in by (date).

Table 2 for Susan Ali's directions for Word Expert Cards.)

As students work on their cards, the teacher roams the room, helping them. Teacher monitoring only takes a few minutes per student, but it is vital to the process. It is difficult for students to use dictionaries effectively, so the teacher's hands-on coaching in locating and interpreting definitions is essential. The teacher is also indispensable for helping students to choose the word meaning that matches the word's use in the copied sentence. A student with a sentence like "They came to a road that *skirted* the top of a deep ravine" will usually need help in locating the appropriate meaning. By checking student sentences, the teacher also helps to clarify word use.

In composing Word Expert Cards, students give each word a personal interpretation. Sentences are often pertinent to their lives. Fifth graders write such sentences as "My brother likes to *caterwaul* because he is a baby" and "I *reconsidered* if I should say I'm sorry to my brother." Clarifying definitions can be an active process. Working with

sixth graders preparing to read *Journey of the Sparrows* (Buss, 1991), we made noises to demonstrate *cooed* and *chuckled* and actions for *squirming* and *straining*. Students also consulted one another about these word meanings.

When the inside of the card is finished, the student writes the word in bold print on the outside. Then he or she makes an illustration that shows the meaning. Students' artistic interpretations often relate to personal experiences and are easy to explain to others. One college student illustrated *aspiring* with a picture of a woman in a business suit, carrying a briefcase. A fifth grader drew herself in open-mouthed astonishment to show *marvel*. On the back outside of the card goes the name of the Word Expert who made it.

It generally takes one to two class periods for students to make the cards. Two Word Expert Cards are shown in Figures 1 and 2. The first was made by third grader Levi Todd for the novel *The Indian in the Cupboard* (Banks, 1980); the second was made by seventh-grader Cora Nowicki for a science unit on cellular structure. When working with younger students, I may simplify directions, for example eliminating the part of speech requirement.

When the cards have been approved, students use them to teach their words to their classmates. In doing this, students come to feel ownership over their own words as well as a growing comfort with the many other words that their classmates teach them. Learning is, of course, reinforced as students go on to read a novel or textbook in which the vocabulary appears in context.

How does the peer-teaching process work? The teacher should initially allocate a single class period. Students usually work in pairs. The first student teaches his or her word to a partner by first showing the outside of the card and asking the partner to determine the meaning from the illustration. The Word Expert next reveals the information on the inside of the card, step by step, asking the partner to try to figure out the meaning, first from the Expert's original sentence, next from the sentence copied from the book, and finally from the definition. This process enables students to practice using contextual clues. Then the students reverse teacher and learner roles.

After the pairs have completed their teaching, generally in 7 to 10 minutes, students rotate to another partner and repeat the process. Using this

method each student truly becomes a confident Expert on his or her own words. In fact, I find that the class can almost always identify the Expert for each word. These Experts provide guidance when questions arise about their words. In this way, knowledge is distributed throughout the class, with each student participating in the teaching process. At times, Experts start to live their words. I remember with a chuckle one misbehaving eighth grader, assigned the word *gallant*, who started bowing and opening doors for me.

After one day of peer teaching, I start the novel or unit of study. Then, for several days, students do about 10 minutes of paired vocabulary learning. Each student gradually learns each word from a peer. As this process unfolds, students also meet the words in their novels or texts.

I have used this strategy in the second grade and beyond. One third-grade teacher used the cards to teach such social studies concepts as *reservoir* and *satellite*; another instructor employed them to refine complex 11th-grade mathematical concepts.

Word Expert Cards help students to learn important and conceptually challenging words. They combine direct instruction in vocabulary and dictionary skills with contextual learning in reading. The guided peer teaching fosters social skills; it is a joy to watch a roomful of animated students excitedly explaining difficult words.

Data collected by Lansdown (1991) suggested that Word Expert Cards are effective. On a pretest, average knowledge of words appearing in a novel ranged from 16% to 28% in six classes of sixth and seventh graders. At the end of the novel unit, class means for words learned ranged from 92% to 97%.

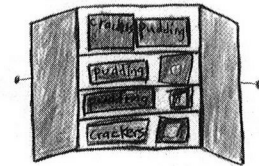
Strategies for practice and review

Because words are learned gradually, only practice can ensure that students acquire enough knowledge to use them comfortably in reading, writing, speaking, and listening. The review activities in this section require the active, deep, and flexible processing most conducive to learning vocabulary. However, these strategies take only a few minutes each and can be fit easily into the teaching day.

To start, you will need to display the words your class is studying. They can be put on a word

FIGURE 1
Third-grade Word Expert Card for a novel
(outside shown on top; inside on bottom)

Cupboard



cupboard

He lifted them carefully one by one onto the shelf of the cupboard.

Noun

A box or closet that holds food or dishes. I use my cupboard to store crackers and boxes of chocolate pudding.

Note. By Levi Todd.

wall (Cunningham, 2000) where the words are listed on cards under the alphabet letter they begin with. Or words may simply be listed so all can see. If you don't have much wall space, try hanging lists of words from clothespins attached to the ceiling.

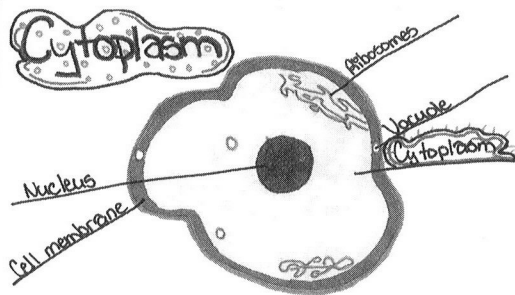
Next the word lists are used in practice activities. Four engaging activities are Anything Goes, Connect Two, Two in One, and Find That Word. Each is appropriate for use *after* words have been introduced.

Anything Goes

For this game, I simply point to a word on a list or word wall and ask students questions about it. The following are examples of questions:

1. What is the meaning of this word?
2. Can you give me two meanings of this word?
3. Can you use this word in a sentence?
4. What is the difference between these two words?
5. Can you use this word and another word in a sentence?

FIGURE 2
Seventh-grade Word Expert Card
for unit on cellular structure
(outside shown on top; inside on bottom)



Cytoplasm
Sentence where found - All of the functions for cell expansion, growth and replication are carried out in the cytoplasm of a cell.
Part of speech - Noun
My definition - A substance like jelly that is the living matter of a cell around the nucleus.
My sentence - The cells of every living thing, including human beings, are filled with cytoplasm.

Note. By Cora Nowicki.

6. Can you spell a past tense, plural, or gerund form of this word?
7. What is the part of speech (or two parts of speech) of this word?
8. What is the root of this word?
9. Give me all of the prefixes and suffixes you see in this word.

Working with fifth graders, I elicited three meanings of the word *depression* using question two above. Then, using question four, I asked for the difference between *captive* and *captor*. A few minutes later, I referred to the word *cubing* on the word wall and asked them to spell *cube*, which was not on the word wall. After this, using question seven, I asked for the two parts of speech of *cube*. If one student answered incorrectly, he or she was able to ask a classmate for help. The 15 questions I asked took six minutes, but they motivated my students and consolidated their word learning.

Fourth-grade teacher Carrie Froeter created a word wall using important words from social studies, English, science, and mathematics. (The school was the same one where the Semantic Impressions data was gathered.) The Anything Goes strategy was used six times, for 10 minutes each time. Students then took a multiple-choice test assessing knowledge of six words used in the game and six words that had been studied but not used in the game. The words were of equal frequency in English and, in Carrie's opinion, had been emphasized equally in the subject units. Results showed that the words reviewed in Anything Goes had a 77% mastery rate; in contrast, the words not reviewed had a 43% mastery rate. On a one-sample *t* test, these scores were significantly different ($t = 7.29, df = 39, p < .001$).

Connect Two

In this strategy, students are challenged to find similarities between two words. Although words can simply be listed in random order and connected, I often construct two columns of about 10 words apiece. Then, I ask students to think of something that a word in column one has in common with a word in column two. For example:

<i>Column one</i>	<i>Column two</i>
bayonet	musket
disgrace	exuberant
muffled	cunning
exposed	pondered
insignificant	ruefully
splendid	courier
roll	hoarse
magazine	incense
ravine	restrained

When we start, the similarities students observe are often superficial. They may point out that *disgrace* and *pondered* have the same number of letters. To move students beyond this, I point out similarities in meaning or in structure. Soon, students demonstrate deeper processing. Examples from this fifth-grade class were that *muffled* and *restrained* are both actions in which people hold back something, that *magazine* and *musket* both have to do with guns, and that *exposed* and *exuberant* can both be used as adjectives. The explanations that

students verbalize are especially helpful in deepening their thinking.

Two in One

Writing a sentence for each new vocabulary word is a time-honored, if pedestrian, activity. With a slight twist, it can be turned into a compelling review: Ask students to put *two* (or more) words into each sentence. This slight change adds tremendous engagement. Present students with a list and ask them to make up sentences that include multiple words. You should allow them to change word forms, using, for example, *glancing* or *glanced* instead of *glance*. To increase the level of thinking as well as conversational use of the words, I ask students to work in pairs or small groups. After about five minutes of composing, each group reads the sentence (or sentences) to the class. You should circulate while the students work and help them refine sentences.

This simple activity has many instructional benefits. By using two words in one sentence, students form conceptual connections between them. In being allowed to use different forms of a word, students practice using base words and their derivatives. Learning word derivatives is one of the best sources of vocabulary growth (Nagy & Scott, 2000). Finally, the Two in One task is invariably met with enthusiasm. Even first graders will soon ask if they can use *three* words in a sentence.

Find That Word

In this strategy, inspired by Word Wizard (Beck et al., 2002), students seek out the words they are studying in their environment. They may find these words in free reading, other subject area books, speech, radio, television, or through computer searches. When the students read or hear a word used, they write down the sentence containing it and bring it in to class. Then, perhaps for about 10 minutes, twice per week, I allow students to come up and read their sentences to the class. The sentences for any week are put on display, so students can refer to them.

Find That Word dramatically increases student awareness and appreciation for vocabulary words. Students also see how words are used in different contexts, which provides a dimension of correct use that cannot be gained through dictionary defi-

nition alone. After a few sessions of Find That Word, students often become so enthusiastic that they stop me in the hall to show me words they have located in books. I usually keep a running count of how many accumulated sentences the class has brought in. One third-grade class collected 381 sentences in four weeks!

To encourage students' word finding, I will deliberately use these words in my speech. Members of the class enthusiastically copy my sentences. Because I also want to encourage students to use words, I have devised a special point system. Each word found in reading or in adult speech is worth 1 point; however, each sentence originally spoken by a student (and, of course, recorded by another class member) is worth 2 points. With some groups, I encourage editing skills by quickly checking whether copied sentences have any grammatical or spelling errors. If they do, I ask students to consult with one another and fix the problems before the sentence can be read aloud. The following is a recent sample of words recorded by sixth graders:

The alligator is very *aggressive*. (from a television channel)

I *glanced* through the curtains. (from a novel)

If you happen to *stumble* across a word, write it down. (from my speech)

We're *whimpering*. (from a student in class—double credit)

Put your hands over your *nostril* as if you are praying. (from a mother advising how to stanch a student's nosebleed)

An English as a Second Language primary teacher used Find That Word to reinforce common nouns like *bed*, *table*, and *television*. Each child was assigned one word to listen for. In a social studies unit, third-grade teacher Lauren Viscardi's students brought in such sentences as "The census shows we're an *immigrant* nation," found in a magazine. Lisa Kadam's advanced sixth graders did the Find That Word strategy with word such as *conspirators*, which were found in Shakespeare's play *Julius Caesar*. Ms. Kadam asked students to compare the way that word and others were used in the Find That Word sentence and in the play (Herzberg & Forman, 2001).

Putting these ideas to work

These six strategies help students to learn words by processing them actively in rich instruction and to retain words through engaging review, as suggested by the National Reading Panel (NICHD, 2000). The benefits of such vocabulary instruction can extend throughout the entire school curriculum. Semantic Impressions has been used with social studies narratives and biographies. It develops facility in narrative writing and editing. Word Expert Cards are suitable for any curriculum area that features extensive terminology, including social studies, science, mathematics, health, and English as a Second Language, as well as reading and literature.

The review strategies are invaluable across the school curriculum. Teacher Carrie Froeter used Anything Goes to review words across four subject areas. Connect Two and Two in One have commonly been used in social studies and science, as teachers ask students to synthesize knowledge by forming relationships between words that encapsulate important concepts. Find That Word reinforces vocabulary in a variety of subjects by asking students to record encounters of words in their environments. This process demonstrates the relevance of school learning to the outside world.

The six strategies also offer assessment opportunities to the teacher. By observing students, the teacher can find words that seem difficult to use in Semantic Impressions or challenging to define and teach in Word Expert Cards. This vocabulary can receive additional instructional focus. Student confidence and comfort in the four review strategies provide invaluable hints to words that are difficult or, conversely, those that are easily mastered. I may keep checkmarks on cards or a piece of paper to monitor successful student use of words for Anything Goes, Connect Two, Two in One, and Find That Word. Words that are used often and successfully are gradually eliminated. Words that students struggle with, or that are infrequently chosen for use, receive more instruction.

The strategies presented in this article have helped my students to learn meaning vocabulary effectively and enthusiastically. They have even empowered students to seek out unknown words. My students start to see vocabulary learning as a source of enjoyment rather than as a boring or

threatening burden. They look forward to learning new words because words are wonderful!

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Toddlers and TV

Early television exposure in toddlers is associated with attention problems later, according to a study from Children's Hospital and Regional Medical Center in Seattle, Washington, USA, published in the April 2004 issue of *Pediatrics*. The study revealed that each hour of TV watched per day at ages 1 to 3 increases the risk of attention problems, such as attention-deficit hyperactivity disorder (ADHD), by almost 10% at age 7.

The findings also suggest that preventive action can be taken to minimize the risk of such problems. Limiting young children's exposure to TV during the formative years of brain development, consistent with the American Academy of Pediatrics' recommendations, may reduce subsequent risk of developing ADHD.

Dimitri Christakis, MD, MPH, a pediatric researcher who led the study, did not look at the content of TV programs. He believes content likely isn't the culprit. Instead, unrealistically fast-paced visual images typical of most TV programming may alter normal brain development. According to Christakis, "The newborn brain develops very rapidly during the first two to three years of life. It's really being wired" during that time.

For more information, see Christakis, D.A., Zimmerman, F.J., DiGiuseppe, D.L., & McCarty, C.A. (2004). Early television exposure and subsequent attentional problems in children. *Pediatrics, 113*, 708-713.