**Improving the Vocabulary Knowledge of Struggling Readers**

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Why Teach Vocabulary?

Recent attention has been focused on the importance of vocabulary and reading achievement (National Institute of Child Health and Development Report of the National Reading Panel, 2000), and the link between vocabulary and comprehension has been discussed at length in the theoretical literature and has been well established in the research for more than fifty years (Thorndike, 1917; Davis, 1944). For most of us, this means that students who know the meanings of many words are better at comprehending than those who know few. But what about the implications for instruction? Here, consensus has been more difficult to reach. Our premise in this article is that improving the vocabulary knowledge of our lowest achieving readers can only be accomplished through direct and explicit instruction of word meanings. While good comprehenders may experience success in learning new vocabulary through context, it is a misconception that learners with vocabulary needs can as well. Their difficulty in understanding what they read prevents them from benefiting from any clues to word meaning available in a text. As a result, they become frustrated, and valuable instructional time is lost.

In our experience we have found that the need for direct instruction in word meanings is especially great for readers who are struggling at grade four and above. This is time when students are supposed to be moving from learning to read to learning how to use reading for learning new ideas and gaining new knowledge (Chall, 1983,1996). This is also the time when the curriculum provides more focused instruction in the content areas. Students are expected to spend more time reading textbooks, reference works, newspapers, and magazines that contain unfamiliar vocabulary and syntax. To help learners with vocabulary needs to be successful, teachers need to provide them with systematic study of vocabulary and many opportunities to engage with word meanings in relation to text through discussion and writing.

Given the importance of vocabulary instruction for these learners, let us think about how we might go about doing that. What are some effective ways to provide direct and explicit vocabulary? To begin, let's look at what words need to be taught.

Which Words Need to be Taught?

A helpful way to consider which words to teach is to think of words as having different levels of application or use in language. For example, Isabel Beck and her colleagues (2002) sort words into three different levels (or tiers). In the first level - tier one - are basic words used in oral language, like clock, baby, happy. In tier two are academic words that occur with high frequency in written language, like coincidence, potential, manipulate. In tier three are low frequency words limited to specific domains such as isotope, peninsula, refinery. Others colleagues (Susan Dutro and Carrol Moran, 2003) make a similar classification, distinguishing between "brick" and "mortar" words. Brick words are those specific to the content being taught, while mortar words consist of the general utility words that hold the content-specific ideas together.

In terms of instruction, tier two words and mortar words make the most sense to teach to students as new word meanings. The meanings of tier one words, although students may not always recognize them on sight, are most likely familiar to students in grade four and above. The meanings of tier three words and brick words are necessary for students to know in order to understand a specific content area text. However, they are not words that students will encounter often, and therefore are not worth devoting a great deal of time to teaching outside of the particular content area to which they belong.

Now let's lookmore closely at some criteriator selecting tier two and mortar words. The first criterion is importance and utility. The words taught need to be ones that will be seen in a variety of content areas, thereby improving students' ability to improve in their comprehension of texts in those subject matters. For example, you might choose a word like consensus, meaning "a general agreement; an opinion held by most or all involved". Consensus is a word that comes up in social studies as in "The Senators reached a consensus on the tax bill" or in science in reference to doctors reaching a consensus on the effectiveness of a certain medical treatment. We used it in the first paragraph of our article.

A second criterion for selecting words to teach is their potential to advance students' conceptual understanding by providing them with more precision for concepts already familiar to them. For example, consider the word lie, meaning "something said that is untrue" - a word and concept familiar to adolescents. Now consider the following words: deception, misconception, fabrication, equivocation, and rationalization - words whose meanings woidd be unknown to most struggling readers. And yet, learning about the meaning of any one of these unfamiliar vocabulary words would develop precision in students' conceptual understandings.

The words and meanings selected for instruction should be presented not just as simple synonyms of known words (i.e., telling students that to fabricate means the same as lie), but should emphasize instead the differences in meanings of the similar words. Following our example, you might say "to fabricate is similar to telling a lie, in that both involve saying things that are false. Eut iahen you fabricate, you make up a story or situation that isn't true. You create some kind of excuse to cover yourself, like saying your dog ate your home-work when you didn't even do the home-work ").

How Should Words Be Selected?

Below is an excerpt from a text that we have used in a vocabulary curriculum we developed (Curtis and Longo, 1997). Try choosing which words you would consider tier two or mortar words. We will show our selections below for comparison.

Kidneys provide an essential function for the human body - that of disposing waste. The only -way to survive without kidneys, even temporarily, is by undergoing a process called dialysis, a several-times-a-week process by which a person's blood is run through a machine that does what the kidneys are supposed to do. The procedure is not pleasant and cannot do as efficient a job as a healthy kidney.

Words like survive, blood, pleasant, healthy and job are good examples of words that students will already be familiar with the meanings of-words that are part of oral language. These words don't need to be taught. For tier two/mortar words, we selected words like the following: essential, function, undergo, procedure and efficient. These words are academic words, found mainly in written texts, in many different content areas, and they relate to concepts that already have some familiarity for students. These are the words we would teach. The words kidneys and dialysis would not be part of our vocabulary instruction, although we would teach them as part of understanding this particular text. They are brick words or tier three words, ones that are specific to a particular content area, and not used frequently. Notice that dialysis is actually defined in the text, a fairly common occurrence with tier three/brick words.

In choosing words, think about which ones will be most useful to your students. Keep in mind that you should limit the number of words so that students can learn the target words' meanings well. There are no right or wrong answers but you want to choose words that will help students to develop the most precise understanding possible in the time you have available.

What Are Effective Ways to Teach Vocabulary?

Based on a vocabulary intervention we developed to meet the needs of adolescents whose lack of vocabulary knowledge prevented them from understanding text at their grade level (Curtis and Longo, 1999), we found the following guidelines for teaching new word meanings to be helpful:

\* use direct and explicit instruction to teach words

\* provide multiple opportunities to learn new word meanings

\* present words in a variety of contexts

\* provide generative activities for engaging with words

Using Direct and Explicit Instruction to Teach Words By direct and explicit instruction we mean that you should begin by presenting the word and explaining its meaning to students. "This word is consensus. It means a general agreement; an opinion held by most or all involved." It is important to show and say the word and perhaps have students copy the word on an index card. The meaning provided should explain the word using language familiar to the students rather than a dictionary definition that can be difficult for students to understand.

Following the presentation of the meaning, you should then provide some contexts that illustrate the word's meaning. Examples for the word consensus include:

A jury must reach a consensus when deciding on a verdict in a trial; they must agree; they must come to a common view.

When thinking about what movie to see, our consensus was that we wanted to see something that would make us laugh; we agreed that we wanted to see a comedy.

It is important in this stage of vocabulary instruction for the teacher to have planned intentionally. It is very difficult to come up with a carefully worded and ageappropriate definition as well as relevant examples on the spur of the moment. This is also why it is less efficient to have students look up words in the dictionary. Dictionary definitions are often very abstract and devoid of any contexts that are familiar to students (e.g., "consensus: group solidarity in sentiment and belief"). Students have difficulty learning new word meanings through this method.

After students are introduced to the new words and their meanings, the teacher should lead a discussion that helps to guide the students' understanding of the word meanings. The focus should be on clarifying what students already know and what information is new to them. The teacher can do this by soliciting examples of contexts from the students where the word meaning would apply (e.g., "What's something that you and your friends need to have a consensus on, something about which you need to reach agreement?"). To help students apply the new word meanings they can be asked to complete sentences containing the words (e.g., Groups need to reach consensus when...). Another example of this type of activity from Beck et al. (2002) that helps students associate newly learned words with activities trom their own experience is called "Have You Ever?". In this activity students are asked to "Describe a time when you might urge someone, commend someone, band with someone."

Providing Multiple Opportunities to Learn New Word Meanings

Students need to encounter the same word meaning multiple times to remember it and make it their own (Baumann and Kame'enui, 2004; Graves, 2006). They also need to receive feedback about how well they are doing in using the new words (Stahl, 1999). In the curriculum we developed for adolescents reading between the fourth and sixth grade level, we provided 10 to 15 exposures of each word during a weekly vocabulary unit. This is the number of encounters students need to influence their comprehension (Beck et al., 1987).

One of the activities we used required students to discuss the relationships between word meanings. We modeled it after one used by Beck et al. (1982), and called it the Yes - No - Why activity. Weekly words were paired to form questions. The students were then asked to answer the questions, choosing either yes or no and then providing an explanation for their answer. The following sentence illustrates how we did this for two our vocabulary words: Could there ever be a consensus in favor of a misconception?

Our experience has been that vocabulary instruction is most effective when teachers and students move away from looking for a "correct" answer, and toward exploring all the possible answers to a question. That's why students' reasons for their answers are more important than the answers themselves in this activity, as it really challenges students' understanding of the word meanings. This activity can also lead to some excellent discussions, particularly when the teacher purposely responds with the opposite response as the students.

Another type of activity for providing multiple opportunities for using the new vocahulary words is games. One that we have found effective is "Who Needs to Know?" In this activity, students have 30 seconds to list specific occupations that need to know the meaning of a particular word. For the vocabulary word "consensus", students might come up with a judge, a movie reviewer, or even a hairdresser! Again, there are no right answers, and students give explanations for why the occupations they listed need to know the word. Players get points for every unique response they come up with.

Another game that students enjoy is atake on charades in which the teacher first asks the class to visually show what a word might look like. For example, "Show me how you would look if you were astounded because you just found out you won a trip to Disneyworld." Or, "Show me what your teacher looks like when she ponders whether you can have free time."

Once the teacher has done this with the group, individual students can usually act out how words would look and the other students can guess which words are being demonstrated.

Presenting Words in a Variety of Contexts

Often students only know the meaning of a word in a very narrow context. This can limit their ability to apply their word meaning knowledge to new contexts, which in turn causes comprehension problems. For example, a student might only understand the meaning of consensus as it relates to a courtroom or misconception as it relates to science. It is important during vocabulary instruction to not only present the word multiple times but also in a variety of contexts. One way to do this is through cloze exercises. An example would be:

Two \_\_\_\_\_ civil right leaders from the past are Rev. Martin Luther King, Jr. and Medgar Evers. It would be a \_\_\_\_\_\_ to think that they and their followers reached a \_\_\_\_\_\_\_ on everything. But both believed that a non-violent approach would be the most \_\_\_\_\_\_\_\_ \_ solution to ending the bias and hatred aimed at AfricanAmericans. In this way they hoped to build a South of the future that would bear little \_\_\_\_\_\_\_ to the South of the 1950's and 1960's.

Students must decide which of their vocabulary words (resemblance, misconception, consensus, judicious, and extraordinary) fits best into each blank. This can be difficult for many students, particularly because using context clues is not a strength for them. The teacher needs to model some of the strategies that a skilled reader would employ. These include reading over the whole paragraph first to get a general sense of the piece and its topic as well as thinking aloud about the different possibilities for each blank as a way to narrow down the choices. The teacher can also show how skipping blanks and crossing out words already used can help to arrive at the correct responses. Having students work together as a group or in pairs at least initially is also helpful as it provides needed feedback on their progress.

Another effective activity for providing words in different contexts is what we call a "read and respond" activity. Students read short informational articles on a variety of topics. The readings do not usually contain the target vocabulary words, although they always lend themselves to the application of the new word meanings the students are learning. For example, one of the passages we have used describes how crayons were first made and how the color names have changed with the times because ot growing cultural sensitivity. After reading the text, students are asked to answer questions like the following that contain their vocabulary words:

Do you agree that toys can contribute to misconceptions in children? Say why or why not?

Should names of products be changed in cases of consensus?

Support your answer with examples.

The teacher can decide whether questions should be answered orally or in writing. We have found that it's a good idea to alternate between the two, giving students opportunities to extend their knowledge and understanding ot words' meanings through speaking and writing.

Providing Generative Activities for Engaging with Words

An important part of vocabulary instruction aimed at improving students' literacy development is focusing on students' ability to use the words, not just to recognize their meanings. Our experience has been that writing that incorporates the words and their meaning is a good way to accomplish this. Students can be asked to complete weekly writing assignments in which they are required to use some of their weekly vocabulary words (extra points for using past weeks' words). Different types of writing can be assigned. For example, a prompt such as "Describe an invention that you think could improve the quality of your life" can encourage creative writing. Students can also be asked to take a stand, as in "Should smoking be allowed in public places?" Another writing assignment might ask students to explain why they agree or disagree with a quote (e.g., from Naguib Mahfouz, we have used: "You can tell whether a man is clever by his answers. You can tell whether a man is wise by his questions").

Writing activities such as these help to emphasize for students the difference between written language and everyday conversation. Written language needs to be more explicit and word choice is a key factor in how well you communicate through writing.

Teachers can provide needed feedback on student writing to use vocabulary words by using a holistic scoring guide. The criteria for the writing should be explicit and reviewed with the student. For example, the criteria might include: writing so the reader can understand, sticking to the topic, using the vocabulary words correctly, expressing a complete thought in each sentence, using correct punctuation and spelling, and varying sentence length and structure. The holistic scale could consist of the following:

1. Superior response. The writer met most criteria

2. Better than average response, but some criteria were not met

3. Adequate response, but many criteria were not met

4. Below average response. Most criteria were not met.

The teacher then discusses with the students which criteria were and were not met.

Another activity that helps students focus on the precision of the word meanings through writing involves giving students sentences such as "The public has misconceptioned about the hazards ot smoking." Students can be asked to rewrite the sentences so that they use the word appropriately. Often we use sentences from the student's own writing that need to be revised. This can be particularly helpful since it helps to advance the student's current knowledge of the word meaning.

How Should Vocabulary Learning Be Assessed?

The type of assessment you use will depend on your instructional goals. For example, a student may be able to provide synonyms for a word but not know how to use it or express its meaning.

Assessment in the form of pre- and post-tests can help to set instructional goals and provide information about the extent of students' learning. For example, at the beginning and end of a weekly vocabulary unit students can be given a multiple choice test on the weekly words. A sample item might be:

If it's a misconception that all young people listen to loud music, then it is:

a) mistaken

b) correct

c) true for some

d) harmful

If the pre-test scores are low then the teacher knows to plan instruction that increases students' familiarity with the word meanings. But if the pre-test scores are high, then the teacher should plan instruction that will deepen word knowledge and increase precision by using activities that require students to use and apply the words both in speaking and writing.

If you are teaching words at a deeper level then you want to assess them at a deeper level. One way to do this is to ask students to use their vocabulary words in writing. In this production task students are told to use the vocabulary word in a sentence so that the reader will be able to figure out the meaning of the word. The sentences are then scored using a sentence production scoring guide based on how well the sentence conveys the meaning of the word (not on punctuation or grammar). A score of 0, 1, or 2 is assigned to each sentence.

A score of 0 is assigned for inaccurate or missing knowledge. (The extinction in my hair made it long.) A score of 1 is assigned when the usage is vague or incorrect but the context suggests some knowledge of the word's meaning. (People should be integrity when they approach on the court's bench.) A score of 2 is assigned to sentences that demonstrate accurate and precise word knowledge. (The gray iuolfhas been hunted close to extinction.) The sentence production task is a good estimate of changes that are occurring in the depth of students' word knowledge.

Another important part of assessment is providing feedback to students on a regular basis. When students are intormed about the goals of instruction and take an active role in tracking their own progress, student achievement can increase. Teachers can meet individually with students at the end of the week to provide a progress report on the weekly vocabidary activities. We have used the following guide as a way to structure and inform these meetings:

Use of Words in Speaking

\_\_\_\_ You participated fully in our discussions of the words and their meanings.

\_\_\_\_ You usually participated in our discussions of the words.

\_\_\_\_ You need to participate more in class discussions.

Use of Words in Writing

\_\_\_\_ You did a great job in using your vocabulary.

\_\_\_\_ You used some of your vocabulary words in your writing.

\_\_\_\_ Your writing assignments were incomplete or not handed in at all.

Individual student-teacher conferences provide an opportunity for teachers to give more detailed feedback to students on how they can improve. They also give students a chance to set specific goals for the following week. After discussing this report with students, it can be sent home for a parent signature.

Summary and Conclusions

The activities described in this article have been used successfully in a stand alone curriculum designed to improve the vocabulary knowledge of adolescents reading below grade level. Success, however, depends on following some general guidelines including: use of direct and explicit instruction to teach word meanings; provision of multiple opportunities to learn new word meanings; presentation of word meanings in a variety of contexts; use of generative activities that engage students in processing word meanings; and provision of ongoing assessment.

As we have outlined, one area that is critical in any concentrated vocabulary instruction is word selection. The words should be "high utility" words, ones that students are likely to encounter many times across different contexts (e.g. consensus, misconception). The words, however, do not have to appear in a particular reading as long as the concepts represented by the words fit with the reading. The guided application of the word meanings through various speaking and writing activities provides the depth of vocabulary instruction that students need.

An intense and explicit vocabulary program can help those readers who struggle with reading comprehension because of deficits in vocabulary knowledge. These are the same students who lack the skill to derive word meanings from text because of their poor comprehension skills (Chall, 1983, 1996; Curtis, 2006). To help these students, vocabulary instruction should actively engage students in processing words at a deep level in a variety of contexts and assist them in making the connections to the words they are learning.

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