

## CHAPTER 1

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# Vocabulary and Its Effects

Since the term *vocabulary* can be used to mean different things, we start by underscoring the point that our use of *vocabulary* means “learning *meanings* of new words.” *Vocabulary* can also mean “words that a reader recognizes in print.” Many of us have heard expressions such as “The children know the vocabulary in the first preprimer.” That does not mean that the children have acquired the *meanings* of the words in the first preprimer—they already knew their meanings. Rather, it means that the children can look at these words and “read” them, or some might say “decode” them and others might say “recognize” them. In fact, the major goal of early reading instruction is to teach children to recognize the written version of words whose meanings they already know from oral language. The key phrase is “know from oral language.” This is very important because learning to read requires children to understand that what they say can be written down and that what is written down can be pronounced and makes sense—that is, it has meaning. Thus, when young children pronounce written words, those words need to match with meanings available from speech. If text materials include words whose meanings young children do not know, a child might work out the pronunciation of a word and not have a match for it in his or her vocabulary repertoire. In such cases, he or she would get no reinforcement for being able to decode the words. Therefore, the goal of reading, which of course is building meaning, would not be accomplished.

The importance of being able to match a written word with meaning is demonstrated by Isabel Beck’s recall of a beginning reader who was painstakingly working out the pronunciation of the pseudoword *reg*. The child, following a blending procedure she had been taught, said “/r/ /e/ /re/ /g/ /reg/ . . . *rag*.” Although she had initially produced the correct vowel phoneme, when she put the sounds together she turned them into a real word that was familiar to her and said *rag*. Even more obvious was her blending of “fam—/f/ /a/ /fa/ /m/ /fam/ . . . fan.” It appeared that what the child was doing was changing the pseudoword pronunciation into a word that had meaning for her. Subsequently when she was told before blending a letter string that the string

was not a meaningful word (i.e., “Sometimes it may be a pretend word or just part of a real word”), the problem disappeared.

An important issue, however, is that even though very young children’s reading materials should contain vocabulary whose meanings they already know, this does not mean that they cannot engage in learning new word meanings. But this does mean that work with new meanings can and should be done through oral activities. In later grades, enhancing students’ vocabulary repertoires involves both oral and written activities.

To reiterate, our focus in vocabulary is on teaching students new word meanings. But enhancing students’ meaning repertoires is not an end in itself. The major purpose of having a large meaning vocabulary is to use it in the service of reading comprehension and writing.

### **HOW IS VOCABULARY KNOWLEDGE RELATED TO COMPREHENSION?**

So now let’s consider what we know about vocabulary and comprehension. First, there is a long history demonstrating a strong correlational relationship between vocabulary knowledge and reading comprehension. Davis’s (1944) early factor analysis data, and its reanalysis by Thurstone (1946) and Spearrit (1972), showed that adults who score high on vocabulary tests also score high on tests of reading comprehension. Singer (1965) showed that the same relationship held for students in grades three to six. More recent results have shown that the relationship between vocabulary and comprehension can be demonstrated even earlier and more pervasively. For example, Snow, Tabors, Nicholson, and Kurland (1995) found that first-grade children’s vocabulary knowledge correlated with their reading ability.

More recently, a number of studies have shown that early vocabulary knowledge is a powerful predictor of young students’ reading comprehension years later. Roth, Speece, and Cooper (2002) and Catts, Fey, Zhang, and Tomblin (1999) found that kindergarten vocabulary knowledge predicted the reading comprehension of students 2 years later in second grade. Wagner and colleagues (1997) found the relationship to hold from kindergarten through fourth grade. And most startling of all, Cunningham and Stanovich (1997) showed that vocabulary knowledge in first grade predicted students’ reading comprehension in their junior year in high school!

What can we make of this pervasive relationship? One way to think about it is to recognize that when children come into kindergarten, they come in with whatever vocabulary they have picked up in their daily lives. So, of course, some children will have less vocabulary knowledge than others. It would seem that being in school should boost vocabulary knowledge, so that the gap between those with lower vocabulary knowledge and those with higher vocabulary knowledge would diminish. But that doesn’t happen. Students seem to stay in the same boat they were in early on, and one of the reasons for this situation is that little has intervened to help them change their vocabulary knowledge status. That is, very little attention is given to vocabulary knowledge in school—a situation that has been well documented (e.g., Biemiller, 1999; Blachowicz, Fisher, Ogle, & Watts-Taffe, 2006).

That little attention is paid to vocabulary in school may seem an odd thing to say since classrooms are full of words! Children are faced with oodles of words in many different forms every day! However, the kind of attention that is brought to those words—and again we are talking about words that are unfamiliar in meaning—is quite scant. As Scott, Jamieson-Noel, and Asselin (2003) noted in their observational study of 23 intermediate-grade classrooms, teachers spend “little time discussing the meanings of words” (p. 282). Rather, most attention to vocabulary involved mentioning—a word or synonym—and assigning—mostly words to be looked up in the dictionary.

Blachowicz and her colleagues (2006) note a lack of adequate attention to vocabulary in commercial reading materials, and cite the long history of this phenomenon, dating at least from Durkin’s study in 1978 (Durkin, 1978–1979). Studies in the 1990s (e.g., Ryder & Graves, 1994) and more recently (Walsh, 2003) indicated that although nearly every text selection in a basal reader is accompanied by a set of target words, the attention paid to them is usually brief and is rarely followed up after the story. Fortunately, this situation does seem to be changing for the better in the newest materials (those with publication dates after 2005).

Although we don’t know the extent to which the attention to vocabulary has improved *within* classrooms since *Bringing Words to Life* was published in 2002, we do know that, at the least, there is more realization that vocabulary is a problem for many students and there appears to be more attention devoted to issues of vocabulary instruction. For instance, vocabulary has been listed as a “hot topic” in *Reading Today*, the International Reading Association’s newspaper, and it’s frequently requested as a focus for professional development. Moreover, we have personally observed heightened interest and concern among teachers, administrators, and teacher educators.

## HOW IS TEACHING VOCABULARY RELATED TO COMPREHENSION?

So it is the case that we don’t know the extent to which vocabulary is getting attention in classrooms, but we do know that if attention *is* given to vocabulary development it *can* make a difference. However, not all vocabulary instruction has a positive effect on comprehension. Even instruction that seems effective at some level will not necessarily affect comprehension. The history of vocabulary research shows a pattern of studies, mainly in the 1970s, that succeeded in improving students’ vocabulary knowledge as measured most often by multiple-choice tests of synonyms or definitional information. But most studies, although it was their major goal, found no effect on comprehension (Baumann, Kame’enui, & Ash, 2003; Stahl & Fairbanks, 1986).

As researchers sought to understand why instruction had generally not brought comprehension improvement, a theme began to emerge that suggested that in order to affect comprehension instruction may need to go beyond simply getting students to associate words with their definitions (e.g., Beck, Perfetti, & McKeown, 1982; Kame’enui, Carnine, & Freschi, 1982; Margosein, Pascarella, & Pflaum, 1982). This

theme reflected a view of comprehension as a complex process during which a reader must act on information encountered in text to build understanding. The instructional implication is that in order to build the kind of word knowledge that affects comprehension, learners need to actively work with new words—for example, by building connections between new words and words they already know and situations with which they are familiar. It is these connections that make it possible for readers to bring to mind the word-meaning information they need as they attempt to comprehend a text.

Starting in the 1980s researchers began to develop instructional techniques that took into account the processing required for comprehension. For example, *semantic features analysis* and *semantic mapping* were developed to engage learners' processing by having students examine how words are related (Johnson & Pearson, 1978, 1984). Both semantic features analysis (Anders, Bos, & Filip, 1984) and semantic mapping (Margosein et al., 1982) instruction have resulted in improved comprehension. Another approach was the development of "rich instruction" that we engaged in with our colleagues. *Rich instruction* was specifically designed to provide explicit explanations of word meanings, multiple exposures to word meanings and uses, and opportunities for students to interact with the word meanings by discussing uses for them, making decisions about whether a word fits a context, and the like. We found that our instruction did affect comprehension of texts containing words that students were taught. These results were demonstrated in two studies in which we compared the comprehension of students who had and students who had not been taught the words (Beck et al., 1982; McKeown, Beck, Omanson, & Perfetti, 1983). In another study, we compared instruction designed to engage active processing with instruction that focused on practice of definitions. In that study, we also compared a higher and a lower number of encounters with each word in both the rich and the definitional instruction modes. We found that on a multiple-choice test, high numbers of encounters made a difference, but type of instruction did not. However, on measures of comprehension, type of instruction *did* make a difference, with the advantage going to instruction that both encouraged active processing of words and featured a high number of encounters (McKeown, Beck, Omanson, & Pople, 1985).

The conclusions of what kind of instruction is needed for comprehension improvement were confirmed in two reviews that analyzed features of vocabulary instruction in studies that succeeded or failed to affect comprehension. Mezynski's (1983) review of eight studies and Stahl and Fairbanks's (1986) meta-analysis of about 30 studies concluded that instruction that succeeded in affecting comprehension included three features: more than several exposures to each word, both definitional and contextual information, and engagement of students in active, or deep, processing.

### **WHAT ELSE AFFECTS THE VOCABULARY-COMPREHENSION RELATIONSHIP?**

A corollary regarding the relationship between vocabulary and comprehension is that although the relationship is strong, it may not always reveal itself. We have discussed

how the kind of knowledge of words is a factor in whether vocabulary affects comprehension, indicating that shallow knowledge of, for example, a simple definition is not generally enough to help comprehension. Some other factors that may intervene are the density of unknown words and the role of the word in a particular context. Encountering a high density of unknown words might be like opening a textbook on astronomy and finding every other word barely intelligible. Facing a text with a high proportion of unfamiliar words will very obviously have a negative effect on a reader's comprehension. But readers are able to tolerate some portion of words in a text that are unknown and still comprehend the text reasonably well (Anderson & Freebody, 1983).

The role of a word in a text may determine its effect on comprehension. Imagine the sentence "Beth couldn't decide where to go on vacation, but she knew she wanted to be free from the brumal landscape." If you didn't know that *brumal* referred to winter, you would not understand what it was that Beth wanted to get away from. On the other hand, consider the sentence "Beth looked out on the frozen, white, brumal landscape." In that case, not knowing the meaning of *brumal* would have little effect on comprehension.

### WHAT IS VOCABULARY'S RELATIONSHIP TO WRITING?

As we turn now to the relationship of vocabulary and writing, we begin by noting that in contrast to the abundance of work on vocabulary and reading comprehension, the literature on vocabulary's effects on writing is extremely small. The relationship between vocabulary and writing is intuitively obvious. One of the joys of reading well-crafted prose and poetry is an appreciation of an author's knowledge and skill in selecting words that surprise and delight readers with their precision, aptness, and overall good fit.

Word choice is often one of the features included in rubrics used to evaluate student writing (e.g., Culham, 2003). Corson (1995) suggests that it is the content of language, especially the use and diversity of vocabulary, that teachers look for when their students are communicating meaning. They do this believing, as Vygotsky did, that the use of words within a relevant context is the best evidence available for the quality of student thought. Despite the role of vocabulary in evaluating writing, however, there has been very little research into how students develop their vocabulary resources for writing.

The evidence that does exist in the literature on writing and vocabulary is not easy to find. In a recent analysis of the first 500 articles provided by the ERIC database in a search for the key words *vocabulary and writing*, only 10 relevant articles were identified. Of these, nine dealt with second-language learners. The other was an interesting dissertation by Moseley (2004), who studied two groups of eighth graders: one that received intensive vocabulary instruction and another that received both intensive vocabulary instruction and writing instruction. Although there were no significant differences in outcome measures, the direction of the

data indicated that students who received both vocabulary and writing instruction included more target words in their essays. Moseley's results are similar to an older study that also taught vocabulary with a writing instructional component (Duin & Graves, 1987). One other study on vocabulary and writing was reported at a conference on vocabulary in 2003 (Scott, Jamieson-Noel, & Asselin 2003). The study was based on three classrooms where teachers focused on "word consciousness," which is an approach that comprises intensive instruction on specific words combined with attention to word choices in literature and encouragement of students to use richer vocabulary in their own writing. In a comparison of the three word consciousness classrooms with three comparable standard classrooms, Scott found that the word consciousness group used significantly more rare words in their posttest writing samples.

These researchers' findings also showed that including a writing component in vocabulary instruction did indeed boost students' writing scores. But it is hard to know from the limited research that has been done the extent to which the vocabulary instruction or the instruction in writing was responsible for the enhancements to the quality of the students' writing.

There are a few reasons that might explain the lack of research on vocabulary's relationship to writing. One is that most research on vocabulary development is not longitudinal or does not cover a long enough period of time to trace the potential effects of vocabulary instruction on student writing. Another reason is that a commitment to vocabulary instruction without explicit attention to the use of vocabulary in writing might not be sufficient to support students' use of newly acquired vocabulary when they are called upon to express their ideas in writing.

According to some researchers and educators (e.g., Nation, 1990), students have a number of different vocabularies including *receptive or recognition vocabulary*, which is understood in reading, and *productive or expressive vocabulary*, which is used in speaking and writing. If you think about your own vocabulary resources, you should be able to recognize that there are certain words that you understand during reading but that you would probably not think to use in your speaking or writing. The question of how teachers can support students in using the vocabulary that they are learning from the texts that they read in the texts that they write is discussed in several places in this volume. (See, e.g., Chapter 3, pp. 33–35.)

Our intention in including this first chapter was that it serve as a foundation for some of our positions and recommendations in the chapters that follow. Our understandings of vocabulary stem from a long sequence of research activities in which we engaged, steeping ourselves in the research of numerous colleagues, and pondering the kind of vocabulary instruction provided to students that might relate to cognitive theory of comprehension. Our broad view is that vocabulary knowledge needs to be deep and rich and imparted to students in energetic ways that encourage them to think about what they are learning. We hope that the chapters that follow will be useful to you in your vocabulary pursuits, both professional and personal.