



Readers who know more words have an easier time comprehending and, in turn, acquiring new words.

Nagy, 2005; Stanovich, 1986

WHAT IS VOCABULARY?

Vocabulary is knowing the meanings of words and is critical for understanding what is read. Students need to know the meanings of almost all of the words in their texts in order to fully comprehend what they are reading. The importance of vocabulary in the reading process has long been recognized in reading research (Whipple, 1925). Teacher instruction and student learning in vocabulary are critical to developing strong reading comprehension. Since the goal of reading is meaning making, a student who is learning to read gains minimal benefit from decoding a word they do not understand. It is challenging for a student to comprehend a word they do not possess in their oral vocabulary, therefore it is valuable to foster students' oral vocabulary development.

Effective approaches to teaching vocabulary often combine explicit instruction, wide reading, multiple and various exposures to words, instruction on analyzing semantic features of words, and using graphic organizers. Additionally, vocabulary learning is optimal when embedded throughout the day and associated with reading particular texts.

This informational white paper provides a brief synthesis of research on vocabulary, shares some considerations for teaching vocabulary in the classroom, highlights examples of what this type of teaching could look like, presents implications for students learning English, and makes connections to recommendations in the PRESS program.

Effective vocabulary instruction has been associated with better comprehension and better performance on standardized test measures.

Stahl & Fairbanks, 1986

RESEARCH SYNTHESIS

Researchers on the National Reading Panel (NRP; 2000) found that many direct and indirect instructional methods were effective for vocabulary learning. They concluded that there is no one correct way to teach vocabulary. They also concluded that it is more effective to use multiple methods of vocabulary instruction in the classroom than to stick with only one method. Additionally, NRP researchers concluded that effective vocabulary instruction:

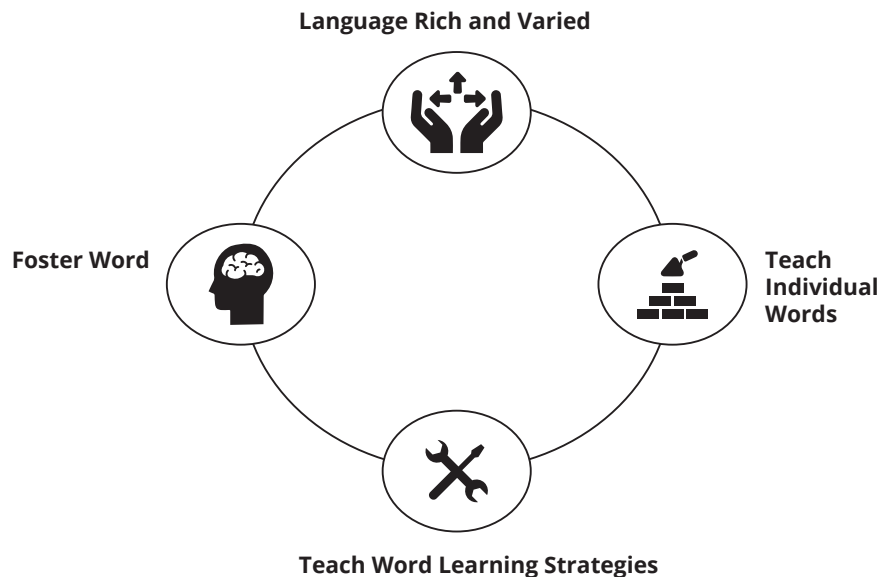
- occurs within a rich context
- provides multiple exposures to new words through active and meaningful activities
- includes multimedia learning
- includes both direct and indirect methods that are developmentally appropriate
- is incorporated into reading instruction

High levels of student engagement are important to vocabulary learning and activities should be restructured as needed to ensure this. Reliance on a single instructional method is not likely to result in optimal learning.

Instructional Method	Description
Explicit Instruction	Explicit instructional methods are those in which students are given definitions or word attributes to learn. Some common examples of this technique are teaching specific words before reading and teaching students to analyze root words and affixes.
Wide reading	Implicit instructional methods are based on the idea that students will learn vocabulary incidentally through exposure to texts from many sources including read-alouds, independent reading, and small group teacher supported reading. Students are expected to infer the meanings of new words with multiple exposures during reading.
Multimedia	Multimedia methods of vocabulary instruction go beyond the text to include other media such as semantic maps, graphic representations, linked images and translations, hypertext, and/or American Sign Language.
Capacity	Capacity methods of instruction assume that students must learn to make other aspects of the reading process automatic in order to have sufficient mental capacity to focus on vocabulary . These methods instruct students towards automaticity in decoding and fluency in order to free-up mental space for vocabulary learning during reading.
Association	Association methods of instruction teach students to make connections between words they know and new words they encounter . These associations may be semantic or contextual. They may also ask students to form mental images to help them recall word meanings.

The five types of vocabulary instructional methods outlined in the National Reading Panel (2000)

Current research supports and expands upon the NRP findings of the characteristics of effective vocabulary instruction. Graves (2016) defines four components of effective vocabulary instruction: 1) providing rich and varied language experiences, 2) teaching individual words, 3) teaching word-learning strategies, and 4) fostering word consciousness.



How to support students in vocabulary learning (University of Minnesota, 2019)

Language Rich and Varied Experiences

Varied language experiences can be understood through the lenses of listening, speaking, reading, and writing. Research has consistently demonstrated associations between reading aloud and vocabulary development (Mol, Bus, & de Jong, 2009; NRP, 2000; Van Kleeck, Stahl, & Bauer, 2003). Beck and McKeown (2001) found that providing rich vocabulary instruction during a read-aloud session is effective for increasing primary grade students' vocabularies. These researchers suggest using read-aloud books to expose young children to challenging concepts and new vocabulary, and to encourage them to talk about and connect ideas related to the content. Recommended practices include the use of question and answer routines during read-alouds designed to elicit the use and understanding of selected words and explicit vocabulary instruction of challenging words during the read-aloud.

Teach Individual Words

Although it is recognized that educators will not be able to teach students every single word that they need to know, that does not mean that educators should not teach some of these words (Beck, McKeown, & Kucan, 2013; Neuman & Wright, 2014). This individual word approach is most effective when students are given definitions along with context, when they actively process the word meaning, and when they are given multiple opportunities to interact with the newly-learned word (Graves, 2016). When it comes to vocabulary knowledge, it is important to consider both the breadth and the depth of a student's understanding (see following table).

Breadth	Depth
• How many words does the student know? (quantity) • Most often measured in standardized vocabulary assessments	• How deeply does the student understand words? (quality) • More challenging to measure in standardized vocabulary assessments

Breadth and depth are both important dimensions of vocabulary knowledge (Schwanenflugel & Knapp, 2016).

Teach Word Learning Strategies

Two of the types of word-learning strategies that can be taught are using context and examining word parts. Baumann and his colleagues (Baumann et al., 2002) studied the effects of teaching fifth-grade students morphemic and semantic analyses. In the morphemic lessons, students learned to analyze root words and affixes to determine the meanings of new vocabulary words encountered in text. In the semantic lessons, students learned to analyze the contextual clues and were taught to read carefully around a new word to gain clues about its meaning. Students were then taught to use both techniques together when reading. Results of the study showed that using the techniques together helped students learn the words most efficiently. There was some evidence that students could transfer these techniques to other reading tasks, but effects were small to moderate, and there was no evidence that the techniques increased comprehension as a whole. In a more recent study, researchers found that morphological awareness training given to preschoolers had a lasting positive impact on students' reading comprehension as measured at the end of grade 1 and grade 6 (Lyster, Lervåg, & Hulme, 2016). In a meta-analysis, researchers recommend five distinct practices for teaching word-learning strategies (Goodwin, Lipsky & Ahn, 2012):

- Segment and build with morphemes
- Use affix and root meanings
- Use morphemes to improve spelling
- Segment and put together compound words
- Identify cognates to support English learners

Foster Word Consciousness

There is a relationship between word consciousness and vocabulary knowledge (Ash & Baumann, 2017). Word consciousness is discussed in depth by Scott and Nagy (2004), and involves an awareness of words and an interest in their meanings, as well as recognition of the importance of word choice and the communicative power of words. Nagy (2005) states that word consciousness includes "various aspects of words--their meanings, their histories, relationships with other words, word parts, and most importantly, the way writers use words effectively to communicate" (p. 30). Teachers are able to support the development of word consciousness through modeling and encouraging an interest in important or interesting words and a curiosity around word structures and word meanings. Word consciousness can also be developed informally through positive attitudes, games, celebrations of new words, and so on.

WHAT TO TEACH?

One important issue regarding vocabulary instruction is how to select which words to teach. Biemiller (2005) has developed a list of words that should be taught in the primary grades. The list is composed of words that 40-80% of students know by the end of second grade. Graves, Sales, and Ruda (2008) created The Most Frequent 4,000 Words which includes 3,600 of the most frequent word families that make up 80-90% of the words found in typical school texts. These and other lists can be a helpful resource for teachers but are often overwhelming. They are not meant as a vocabulary curriculum to be followed, but rather as a useful reference to identify if some students need extra support in this area.

Although there may be some situations where it is helpful to teach vocabulary words from a specific list, often vocabulary will be found in selections of texts that students are reading. Graves (2016) outlines four categories of words to consider: essential words, widely useful words, more common words, and imported words. See the table below.

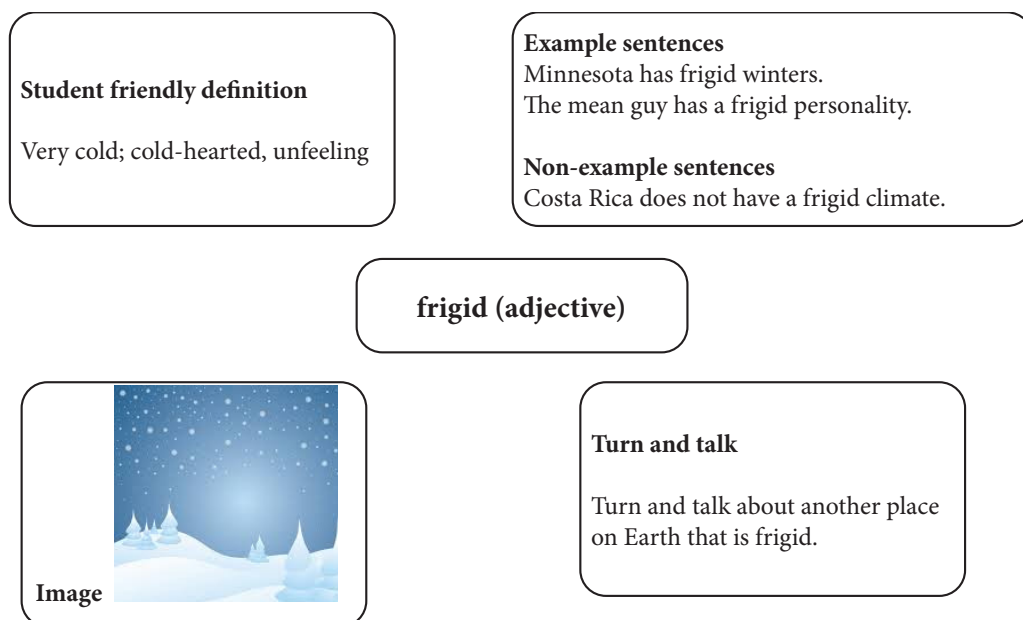
Word Type	Description
Essential Words	Necessary in order to understand the text being read
Widely Useful Words	Have broad, general utility for students' reading and writing
More Common Words	Higher frequency words that may not be understood specifically by students with limited vocabulary knowledge
Imported Words	Not in the text itself, but may help the students to better understand the themes or key ideas from the text

Common Word Types (Graves, 2016)

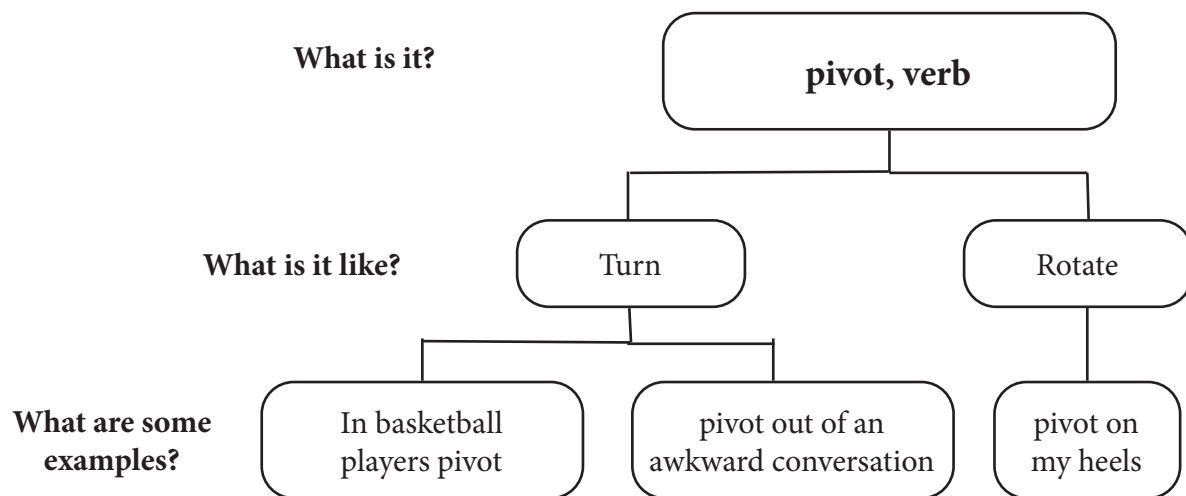
EXAMPLES IN PRACTICE

Blachowicz, Fisher, Ogle and Watts-Taffe (2006), as well as many other researchers, believe that it is crucial for vocabulary learning to occur throughout the day, across content and subject areas. If vocabulary learning is an isolated event, it is not likely that students will internalize the new words.

Semantic mapping was found to support successful vocabulary learning in several studies. This happens when a semantic web or graphic organizer is used to make connections between prior knowledge (known words) and new vocabulary and concepts. For example, Boulware-Gooden, Carreker, Thornhill and Joshi (2007) found that students who participated in vocabulary instruction that involved generating synonyms, antonyms, and related words, as well as using semantic webs, did better on subsequent vocabulary and comprehension measures than students who participated in vocabulary instruction that involved writing the vocabulary word and using it in a sentence.



An example of a graphic organizer to support vocabulary learning through semantic mapping.



An example of a graphic organizer to support vocabulary learning. Adapted from: Schwartz & Raphael (1985).

Examples and non-examples are one way to explicitly teach words from a text. Educators can use a variety of stimuli, including pictures, gestures, and definitions and generate opportunities for students to determine examples and non-examples of word meaning.

Word gradient activities are another fun way to explicitly teach words from a text. Select two opposite words, such as *whisper* and

shout. Create a list of words which are semantically related to those words such as *speak* or *call out*. Have students sort words by gradation of the quality.



Selecting vocabulary words from a core text guarantees that students will have an opportunity to hear the vocabulary words embedded in context. Partnering vocabulary instruction with reading the words in context is also a beneficial practice.



Providing two or more different images to support one vocabulary word is a powerful way to help students understand new words. Photos tend to have greater impact than clip art, but any image is better than no image at all!

Total physical response (TPR) is a suggested way to teach words while including movement. When teaching vocabulary words, determine a gesture to accompany the word to increase students' retention of the word and its meaning.

Prefix-Queen Root-Suffix-Total (PQRST) is a mnemonic device (Goodwin, Lipsky & Ahn, 2012) that can be used to support students in morphemic analysis. In this approach, students are to identify the meaning of the individual components (prefix, queen root, suffix), and then put the separate meanings together to understand the total meaning of the word.

IMPLICATIONS FOR ENGLISH LEARNERS

Research suggests that the developmental progression of decoding skills is likely to be similar for English learners and native English speakers; however, because language is learned simultaneously for English learners, vocabulary and language structures should be targeted intensively throughout all lessons. When compared to native speakers, a disproportionate number of language learners require interventions targeted toward vocabulary and comprehension strategies. Although students learning English may take additional time to broaden their vocabularies, it is critical to intervene as early as possible before they fall behind their peers, including within the area of vocabulary. It can take years for students who are learning English to develop advanced academic language, so it is important to provide supports in this area in an ongoing manner so that regular classroom instruction is comprehensible (University of Minnesota, 2019).

With this in mind, Path to Reading Excellence in School Sites (PRESS) created a vocabulary preview protocol. This preview is intended to be partnered with any type of intervention (including but not limited to phonemic awareness, phonics, fluency, or comprehension) or content instruction. The goal is to introduce and practice vocabulary words that will be used in the forthcoming instruction.

“The first word is _____. ”

Point to the word and slide finger below the word as you read it.

“What word?”

Have students chorally repeat the word.

“Here are some pictures that show _____. ”

Show two color images depicting the word.

“ _____ means (student-friendly definition). What does _____ mean?”

An excerpt from the PRESS EL Vocabulary Preview protocol (University of Minnesota, 2019)

CONNECTIONS TO PRESS

Vocabulary knowledge is not a constrained, or limited, skill such as learning the 26 letters of the alphabet. For all intents and purposes, there are a limitless number of words to be learned, and people of all ages continue to learn new words throughout their lives. The more words people know, the greater potential they have to access more complex reading material and subjects. Students whose vocabulary resources do not match the content of the school curriculum may be missing a lot of the intended learning going on in their classrooms because they do not understand the academic word meanings. For this reason, it is important for teachers to embed vocabulary instruction into each lesson in the classroom and be especially sure that students understand the meanings of key conceptual words in their texts and academic subjects. PRESS used the research base presented in this document and beyond to make suggestions for vocabulary instruction within the quality core (tier 1) environment, and within the context of delivering small group, targeted interventions (tier 2).

The PRESS vocabulary intervention is built on components of effective vocabulary instruction: 1) providing rich and varied language experiences, 2) teaching individual words, 3) teaching word-learning strategies, and 4) fostering word consciousness (Graves, 2016). In the intervention, students learn important words selected from a children’s literature book and discuss and apply the new vocabulary outside the context of the story (Beck & McKeown, 2007; Biemiller & Boote, 2006). Research demonstrates that incorporating these components into the read-aloud session is an effective setting for increasing primary grade students’ vocabularies (Beck & McKeown, 2007). Moreover, researchers have also found that students who participate in vocabulary instruction

that involves generating synonyms, antonyms, and related words as well as using semantic webs do better on subsequent vocabulary and comprehension measures than students who participate in vocabulary instruction that involves writing the vocabulary word and using it in a sentence. These approaches are used in the PRESS vocabulary intervention.

Research-Based Instructional Recommendations Outlined Above	PRESS Vocabulary Tier 2 Intervention
• Vocabulary words may be selected from a text the students are reading.	• The PRESS vocabulary intervention suggests finding words that are integral to a core text and connecting the instruction to the text.
• Vocabulary instruction should include explicitly teaching words.	• The PRESS vocabulary intervention includes explicit word instruction
• Foster word consciousness as part of vocabulary instruction.	• The PRESS vocabulary intervention is intended to be paired with a text so students identify and hear the words in context.
• Students should generate synonyms, antonyms and related words for vocabulary words.	• The PRESS vocabulary intervention is set up so that students have a conversation in which students use the vocabulary word and then come up with examples and non-examples.
• Discussion-based cooperative learning is motivating for students.	• The PRESS vocabulary intervention is set in a discussion-based, cooperative learning setting to support student engagement and motivation.
• Provide explicit vocabulary support for English learners.	• PRESS provides EL-2, a vocabulary preview protocol intended to be partnered with any intervention or lesson in which a student would benefit from explicit vocabulary instruction.

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