



# INFORMATION CAPSULE

## Research Services

Vol. 0704  
September 2007

Christie Blazer, Supervisor

### VOCABULARY INSTRUCTION

#### At A Glance

*Research on vocabulary acquisition indicates that some vocabulary is learned indirectly and some vocabulary must be taught directly. Therefore, effective vocabulary instruction combines the teaching of strategies for independent word learning with direct instruction in specific words. This Information Capsule, based on a review of the research on vocabulary instruction, summarizes issues that should be considered when planning vocabulary instruction and reviews strategies that have been found to help students learn word meanings independently. A brief summary of vocabulary instruction in Miami-Dade County Public Schools is also provided.*

Vocabulary is defined as the words individuals understand and use to communicate effectively. Acquiring vocabulary is more than just recognizing new words. Students must be able to provide the definitions of words, identify synonyms and antonyms for words, and use words in oral and written contexts. Researchers agree that students need extensive word knowledge to succeed academically (National Institute for Literacy, 2007; Kelley et al., 2003; Shostak, 2002; Mosher, 1999; Baker et al., 1995; Nagy, 1988).

Szymborski (1995) identified four principles of learning that directly relate to students' ability to retain their knowledge of words and their meanings:

- The more frequently words are used, the easier it is to recall and use them.
- The more different ways words are used, the easier it is to remember them.
- The more importance words have or the more interesting they are to use, the easier it is to remember them.
- The more students understand about the subject matter in which the words are taught, the easier it is to remember specific words.

Children enter school with an oral vocabulary ranging from as low as 6,000 words to as high as 14,000 words (Weizman & Snow, 2001; Clark, 1993). Estimates of the rate at which children's vocabularies expand during elementary school range from 2,000 to 3,600 distinct new words each

year. This translates into six to ten new words every day (Lehr et al., 2004; Penno et al., 2002; Texas Education Agency, 2002; Anderson & Nagy, 1992). Nagy and Anderson (1984) estimated that high school graduates know approximately 45,000 words. Gleitman (1988) suggested that, until age 30, individuals learn about 3,500 new words every year.

### Effective Vocabulary Instruction

The role of education in vocabulary development has been the subject of much debate. Some researchers argue that direct instruction of words is the best way to increase students' vocabularies, while others believe there are too many words to teach and that vocabulary growth should be promoted by teaching strategies that enable students to learn word meanings independently (Baumann et al., 2003; Shostak, 2002; Beck & McKeown, 2001; Biemiller, 2000; White et al., 1990; Nagy, 1988).

Studies of vocabulary acquisition indicate that most vocabulary is learned indirectly, but some vocabulary must be taught directly. The majority of researchers have therefore concluded that effective vocabulary instruction combines the teaching of strategies for independent word learning with direct instruction in individual words (Apthorp, 2006; Lehr et al., 2004; Armbruster et al., 2001; National Reading Panel, 2000; Baker et al., 1995; Florida Literacy and Reading Excellence Center, n.d.).

### Issues to Consider in Vocabulary Instruction

Researchers have identified several issues that should be considered to increase the effectiveness of vocabulary instruction:

- **Teaching vocabulary across the curriculum.** Although the opportunities for vocabulary instruction are especially apparent in language arts and reading, researchers agree that vocabulary instruction should be included in all areas of the curriculum in which students encounter new words and concepts (Mosher, 1999; Smith, 1997).
- **Providing instruction over an extended period of time.** Armbruster, Lehr, and Osborn (2001) reported that students learned words best when they were provided with instruction

over an extended period of time. The amount of time spent on instruction may depend on several factors, including the teacher's judgment of students' instructional needs, time available, the age of the learners, and the amount of contact students are likely to have with a variety of words (Elliott et al., 2002; Szymborski, 1995; Zaner-Bloser, n.d.).

- **Providing students with multiple exposures to words.** Vocabulary instruction should provide multiple opportunities for students to learn new words. Students must be given the opportunity to read, hear, write, and speak new words in a variety of contexts so they become part of their usable vocabulary (Block & Mangieri, 2006; Lehr et al., 2004; Kelley et al., 2003; McKeown & Beck, 2003; Elliott et al., 2002; Armbruster et al., 2001; National Reading Panel, 2000; Mosher, 1999; Venetis, 1999; Marinak et al., 1997).

Researchers have not determined the minimum number of exposures necessary for optimal learning. Apthorp (2006) reported that students received higher scores on vocabulary tests when they were exposed to a word at least six times. Senechal (1997) found that reading the same book multiple times led to more word learning than reading several different books once.

- **Learning words in context.** Researchers have recommended that new words be taught in the context of meaningful subject matter lessons (Block & Mangieri, 2006; National Reading Panel, 2000). Ellis (2002) stated that "the common practice of having students attempt to learn long lists of un-associated words without the benefit of learning them within some meaningful context is largely a waste of the teacher's and student's time." Students should eventually be able to demonstrate their ability to use new words within the context of other subject areas and topics (Ellis, 2002).
- **Involving students in vocabulary instruction.** Researchers agree that students learn more when they are actively involved in classroom assignments. Studies have found that rote memorization of word lists is the least effective way to teach vocabulary. Instead, teachers should engage students in meaningful activities that encourage active learning

(Collier, 2007; Aphthorp, 2006; Shostak, 2002). Nilsen and Nilsen (2003) stated that the biggest challenge in teaching vocabulary is to keep students on task and involved in relating to words. Examples of activities that involve students in learning include identifying inappropriate uses of words, finding ways to use words in different contexts, designing illustrations for words, and retelling stories (Block & Mangieri, 2006; Lehr et al., 2004; Kelley et al., 2003; Elliott et al., 2002; Ellis, 2002; Mosher, 1999; Marinak et al., 1997; Smith, 1997; Joe, 1996).

- **Connecting vocabulary to background knowledge.** Studies indicate that students learn more when they connect new information to what they already know. Vocabulary instruction should help students make connections between unknown words and the words, knowledge, experience, and ideas they already possess. Examples of activities that help students connect personal experiences and prior knowledge to new vocabulary include identifying how the word is related to subject matter they have already learned, identifying something from their personal lives the word reminds them of, creating metaphors or similes for the word, and explaining how the word relates to real-life situations (Lehr et al., 2004; Kelley et al., 2003; McKeown & Beck, 2003; Elliot et al., 2002; Ellis, 2002; Mosher, 1999; Venetis, 1999; Marinak et al., 1997; Florida Literacy and Reading Excellence Center, n.d.).
- **Selecting the words and text to teach.** Biemiller (2007) reported that most children acquire word meanings in approximately the same sequence. He stated that since “word meanings are learned in a predictable sequence, it is possible to anticipate which meanings will be learned in the near future by a child. We can’t be precise, but we can estimate that children will mainly be learning word meanings from among the *next* 2000 or 3000 meanings in a list of word meanings.” Biemiller (2007) summarized researchers’ assumptions regarding the pattern of vocabulary acquisition as follows: “Some researchers believe that the stable sequence of vocabulary learning occurs because the word meanings learned earlier are prerequisites to understanding word meanings learned later. Others suggest that the word meanings

encountered more frequently are learned earlier . . . Finally, some researchers suggest that words with more mentally complex meanings are learned later.”

There is no official formula for selecting age-appropriate vocabulary, despite lists that identify “third grade words” or “fifth grade words,” and few guidelines to determine which words students should be learning at different grade levels. For example, the listing of “coincidence” as an “eighth grade word” in a vocabulary frequency index indicates only that most students do not know the word until eighth grade. It does not mean that students in seventh, or even fifth, grade cannot learn the word (Armbruster et al., 2001).

Researchers have concluded that teachers only have time to thoroughly teach a few new words (eight to ten) per week (Kelley et al., 2003; Armbruster et al., 2001). They recommend that, rather than teaching students many unknown words, teachers concentrate on fewer words in greater depth (Ellis, 2002). Reasons cited for not directly teaching all unknown words include (Armbruster et al., 2001; Marinak et al., 1997):

- ♦ the text may contain more unknown words than there is time to teach directly;
- ♦ the time spent on direct instruction of many unknown words might be better spent on reading assignments;
- ♦ students can understand many texts without knowing the meaning of every word; and
- ♦ students need opportunities to learn the meanings of unknown words on their own.

It may not be necessary to spend an equal amount of time teaching each word identified for study (Block & Mangieri, 2006; Marinak et al., 1997). Types of words teachers should focus instruction on include (National Institute for Literacy, 2007; Block & Mangieri, 2006; Lehr et al., 2004; Kelley et al., 2003; Ellis, 2002; Armbruster et al., 2001; Marinak et al., 1997):

- ♦ useful words, or words students are likely to see and use repeatedly;
- ♦ words that contain patterns that help students learn other words;
- ♦ important words, or words that students need in order to understand a concept or

- ♦ the text; and
- ♦ difficult words, such as words with multiple meanings, words in idiomatic expressions, or words with different meanings in different subjects (for example, volume is a measurement of space in science, a degree of loudness in music, and one book in a set of books in literature).

Ellis (2002) cautioned that teachers should avoid teaching words:

- ♦ that have little utility once the student has passed the test;
- ♦ the student is unlikely to encounter again;
- ♦ just because the word is highlighted in the text; and
- ♦ just because the word appears on a list at the end of a text chapter.

Most researchers suggest that teachers use books containing challenging words. There should be a number of words not known by at least half of the class. Books with words known by only a few of the students in the class or books with words known by most students in the class should not be used (Fifer et al., 2007; Biemiller, 2003).

Some researchers have suggested that teaching specific words before reading the assigned text helps both vocabulary learning and reading comprehension (Armbruster et al., 2001; National Reading Panel, 2000). However, Dixon-Krauss' (2001) classroom research study concluded that instruction following the reading of text led to higher vocabulary test scores because the text provided students with a conceptual base for studying unfamiliar words. More research is needed to determine if it is more effective to teach specific words prior to or following the reading of assigned text.

- **Engaging in a variety of instructional activities.** Block and Mangieri (2006) stated that dependence on a single vocabulary learning strategy will not result in optimal learning. Since every student learns differently, teachers should use a variety of activities when engaging in vocabulary instruction. If vocabulary is taught using one instructional method, only those students who learn through that style of teaching will benefit (Lehr et al., 2004; Smith, 2002; Mosher, 1999). Studies have found the following instructional techniques can be used to promote

vocabulary growth:

- ♦ **Drawing** allows students to think visually. Students can illustrate assigned vocabulary words or passages from a story they read on their own (Ellis, 2002; Bazeli & Olle, 1995).
- ♦ **Writing** new words in a personal word journal is one way to reinforce word meanings. Students can record new words and what they have learned about them in their journals and keep a list of interesting words they encountered in their reading (McKeown & Beck, 2003; Shostak, 2002; Dixon-Krauss, 2001).
- ♦ **Retelling** is a speaking activity that can be a useful way to learn vocabulary. Students acquire new vocabulary while reading a text independently; the retelling process allows them to retrieve the words when summarizing the story (Joe, 1996).
- ♦ **Reading from captioned video through the television screen** can enhance students' vocabulary knowledge. Studies have found that students enjoy watching captioned television and feel confident processing information from a familiar medium. Students can also produce their own videos with captioned vocabulary words (Bazeli & Olle, 1995).
- ♦ **Graphic Organizers** serve as visual representations that structure information to show relationships between words. Studies indicate that the use of graphic organizers helps students think about words in new and different ways (Elliott et al., 2002; Smith, 2002; Mosher, 1999; Bazeli & Olle, 1995). Monroe (1998) reported that graphic organizers were especially effective for teaching technical vocabulary.
- ♦ **Computer programs designed to develop vocabulary skills** can enhance vocabulary instruction (Lehr et al., 2004; Wood, 2001; National Reading Panel, 2000). Baker, Simmons, and Kame'enui (1995) reported that benefits of computer-assisted vocabulary instruction included less time needed for teacher-led instruction and the systems' ability to individualize instruction and facilitate the alignment of instructional techniques and vocabulary goals.

Wood (2001) suggested that computer programs had several advantages not found in print materials, including: game-like formats that may be more effective at holding students' attention than textbooks; hyperlinks that provide quick access to text and graphics; online dictionaries and reference materials that allow students to hear words pronounced and defined; multi-modal presentations of information that keep students actively engaged in the learning process and accommodate a wide range of learning styles; and the ability to pause or repeat information, which benefits students who need several repetitions of the information.

In addition, communication tools, such as the Internet and e-mail, are being used increasingly to promote vocabulary development through computer-mediated cultural exchanges, book discussions with peers, and "conversations" with authors (Wood, 2001).

Wood (2001) cautioned that, while computers can supplement teacher-led instruction, teachers are always needed to provide meaningful context for students and to engage them in conversations that help them apply their new word knowledge.

Other activities that can be used to enhance students' vocabulary learning include taking field trips, listening to invited guest speakers, interviewing community members, conducting debates, and writing and performing skits or commercials (Kelley et al., 2003).

### **Word Learning Strategies**

It is not possible for teachers to provide direct instruction for all of the words their students do not know. In order to directly teach students 3,000 words a year, teachers would have to provide instruction on almost 17 words each school day. Estimates vary, but a review of the literature suggests that, in general, no more than eight to ten words can be thoroughly taught each week. Researchers have concluded, therefore, that students must develop strategies for learning additional word meanings on their own (Lehr et al., 2004; Texas Education Agency, 2002; Armbruster et al., 2001).

Research on vocabulary instruction indicates that students actually learn the meanings of most words indirectly when they hear and see words used in many different contexts. For example, through conversations with friends and family members, listening to music and the radio, watching movies and television programs, being read to, and, most importantly, reading extensively on their own (National Institute for Literacy, 2007; Kelley et al., 2003; Armbruster et al., 2001; National Reading Panel, 2000).

Studies have found that the following strategies help students independently learn the meaning of unknown words:

- **Independent Reading.** Most researchers agree that the development of strong reading skills is the most effective independent learning strategy available. The more students read, the more words they encounter and the more words they learn. The amount of time students spend reading independently has been found to be one of the best predictors of vocabulary size (Lehr et al., 2004; Shostak, 2002; Mosher, 1999).

Teachers should provide opportunities for extensive reading in all subjects as often as possible and encourage independent reading both in and outside of school (Cunningham & Stanovich, 2003; Shostak, 2002; Texas Education Agency, 2002; Armbruster et al., 2001; Marinak et al., 1997; Baker et al., 1995; Florida Literacy and Reading Excellence Center, n.d.). Independent reading time can be allocated before or after classroom assignments and teachers can form flexible reading groups, literature circles, and recreational reading programs (Lehr et al., 2004; Kelley et al., 2003; Texas Education Agency, 2002; Armbruster et al., 2001). Nagy (1988) stated "the single most important thing a teacher can do to promote vocabulary growth is to increase students' volume of reading." He contended that if teachers increased the time spent reading during the school day by 25 minutes, students could learn an additional 1,000 words each year.

Some researchers suggest that almost any type of reading will produce vocabulary growth. Others believe that reading below grade level or reading texts with too many unfamiliar words

will not result in significant vocabulary acquisition. The majority of studies have concluded that students should read texts at varying levels of difficulty; some texts should be challenging and others should be read for enjoyment (Lehr et al., 2004; Elliott et al., 2002). A wide variety of available books will encourage students to engage in independent reading. Teachers can provide guidance by suggesting books at the appropriate reading levels and identifying books that might be of special interest to individual students (Lehr et al., 2004).

- **Reading aloud to students.** Studies have found that adding a teacher read-aloud component to direct vocabulary instruction provides an opportunity to increase students' vocabulary (Lehr et al., 2004; Biemiller, 2003; Kelley et al., 2003; Penno et al., 2002; Armbruster et al., 2001; Robbins & Ehri, 1994). Researchers have suggested that students at all grade levels can benefit from hearing texts read to them (Biemiller, 2007; Armbruster et al., 2001). Penno, Wilkinson, and Moore (2002) found that students made greater vocabulary gains when teachers paused to provide explanations of unknown words during read-aloud sessions.

Studies conducted to compare the effect of read-alouds on vocabulary acquisition with and without companion texts have produced mixed results. Militante (2006) reported that students who listened to stories with companion texts scored higher on vocabulary tests than students who listened to stories without companion texts. Burgess and Tracey (2006) and Ruivo (2006), however, found no significant differences between the vocabulary scores of students listening to stories with and without companion texts. Both Militante (2006) and Ruivo (2006) noted that students without companion texts appeared less distracted. The authors suggested that these students may have been more attentive because they did not want to miss what the teacher was reading or because they were not concerned about losing their place in the text. More research is needed to determine if providing companion texts during read-aloud sessions has a significant impact on students' vocabulary acquisition.

- **Discussions with students.** Some researchers believe the real value of reading

aloud to students lies not in the reading alone, but in the teacher-student discussions that accompany the reading (Lehr et al., 2004). Teachers and students interact verbally throughout the day. Successful vocabulary programs use these formal and informal discussions as opportunities to engage the classroom in vocabulary learning (McKeown & Beck, 2003). Language is a social phenomenon; students need to interact with other speakers to hear words used in a variety of contexts (Nilsen & Nilsen, 2003; Ellis, 2002; Florida Literacy and Reading Excellence Center, n.d.). Beck and McKeown (2001) stated that "talk surrounding text or getting children to think about what was going on in the story are keys to literacy growth." They found that the most effective classroom discussions focused on the major story ideas and involved all students in the discussions.

Ways to increase the amount of meaningful conversations in the classroom include (Miller, 2006; Nilsen & Nilsen, 2003; Ellis, 2002):

- ♦ plan lessons so students frequently work as partners or in small groups, providing them more opportunities to hear and say the words being studied;
  - ♦ ask students to make mini-speeches to their classmates;
  - ♦ encourage intelligent guessing, or the utilization of grammatical, metaphorical, and morphemic clues (i.e., prefixes, suffixes, and roots);
  - ♦ use questioning to reinforce vocabulary; and
  - ♦ encourage all students to actively participate in classroom discussions.
- **Studying word parts.** Many researchers believe that teaching word parts provides students with strategies for acquiring new word meanings independently (Carlisle, 2004; Lehr et al., 2004; Baumann et al., 2003; Kelley et al., 2003; Elliott et al., 2002; Shostak, 2002; Florida Literacy and Reading Excellence Center, n.d.). Word parts that students can identify and use to determine the meaning of unfamiliar words are also called morphemes. Morphemes include prefixes, suffixes, and roots. Many of the words students are likely to encounter in their reading are derivatives of words they already know (Shostak, 2002). Nagy

and Anderson (1984) estimated that 60 percent of English words have meanings that can be determined from their parts. For example, nine prefixes account for 75 percent of words with prefixes.

- **Using context clues.** Using context clues to learn new words involves determining the meaning of unknown words by analyzing the surrounding text (Lehr et al., 2004; Baumann et al., 2003; Kelley et al., 2003; McKeown & Beck, 2003; Elliott et al., 2002; Shostak, 2002; Anderson & Nagy, 1991; Nagy & Anderson, 1984). Baumann, Edwards, Boland, Olejnik, and Kame'enui (2003) stated that contextual learning is one of the preferred approaches when the instructional goal is to enhance students' independent word learning. However, contextual analysis is not always the most effective instructional means for vocabulary development (Szymborski, 1995) and should not be used as the only vocabulary acquisition strategy for several reasons:
  - ♦ Using context clues to learn new words does not address the needs of students who do not have adequate reading skills (for example, students in kindergarten and grade one who are not yet reading proficiently and students at any grade level who tend to become frustrated with reading activities) (Elliott et al., 2002; Baker et al., 1995; Robbins & Ehri, 1994).
  - ♦ Using context is not always a reliable way to get information about word meaning. For example, in the passage "Dan heard voices in the hall downstairs . . . then he recognized the lumbering footsteps of Aunt Grace," students will be unable to determine the meaning of the word "lumbering" from the context no matter how hard they try (McKeown & Beck, 2003).
  - ♦ Even when students learn the meaning of a word from context, they are often not capable of fully understanding the word or using the new word in a sentence (Shostak, 2002; Venetis, 1999).

Learning from context is influenced by many factors, including the number of times the unknown word occurs, the helpfulness of the surrounding context, and the importance of the unknown word for understanding the surrounding context. Learning from context

clues is also influenced by individual differences in the ability to separate relevant from irrelevant information and to relate new information to previous knowledge (Lehr et al., 2004; Baker et al., 1995). Robbins and Ehri (1994) reported that students who demonstrated greater reading comprehension and had larger existing vocabularies were better able to infer the meanings of unfamiliar words using context clues.

- **Using dictionaries.** Research indicates that the traditional activities of looking up a dictionary definition, writing the word in a sentence, and memorizing the word's meaning result in a superficial knowledge of words that is not likely to be retained (Elliott et al., 2002; Marinak et al., 1997). Nagy (1988) concluded that, although dictionaries can play an important role in vocabulary instruction, by themselves they often provide little insight into how a word is actually used. Dictionary work can be difficult because the print may be small, the definitions are too succinct for many students to understand, and the entries contain unfamiliar abbreviations and symbols (Nilsen & Nilsen, 2003; Texas Education Agency, 2002).

Shostak (2002), however, reported several advantages to using dictionaries, including:

- ♦ students can quickly learn the specific meaning of a word they encounter in their reading;
- ♦ students can learn the history of a word;
- ♦ students can gain an understanding of the interrelated words in word families; and
- ♦ the information provided in a dictionary can give students a better appreciation of the language.

To enhance students' use of dictionaries, researchers have suggested that teachers schedule the following activities (Graves et al., 2004; Lehr et al., 2004; Nilsen & Nilsen, 2003; Shostak, 2002):

- ♦ Take students to the school library where the librarian can introduce them to different kinds of dictionaries, including general-purpose dictionaries, unabridged dictionaries, specialized subject dictionaries, bilingual dictionaries, and slang dictionaries. Students should also be

familiarized with dictionaries that are available through the Internet so they can use them at home.

- ♦ Help students understand some of the decisions dictionary editors must make. Is the first meaning listed in the entry the oldest usage or the most common usage? Are there separate entries for the same words when they are used in different contexts?
- ♦ Model the most effective way to look up unknown words and how to select the most appropriate definition for a particular context.
- ♦ Ask students to share their findings about words' origins and how they have evolved.

### **On A Local Note**

Miami-Dade County Public Schools promotes vocabulary growth for all students through direct and indirect instruction. Reading coaches and Language Arts department chairpersons have participated in professional development in vocabulary instruction using several research-based models, including Beck and McKeown's model of tiered words. This model emphasizes the importance of Tier 2 words, or words that are frequently used and have been determined to be helpful across all subject areas. Additionally, the district's teachers have received professional development in reciprocal teaching and computer-assisted vocabulary instruction. Teachers have studied the process of derivation which emphasizes how a number of words can be formed from a single base word through the addition of prefixes and suffixes. Effective work study comes to students through these direct methods as well as their experiences in reading and writing, which also promote growth in vocabulary knowledge.

For more information on vocabulary instruction in Miami-Dade County Public Schools, contact the district's Language Arts/Reading department at (305) 995-3120.

### **Summary**

Effective vocabulary instruction combines the teaching of strategies for independent word learning with direct instruction in specific words. Researchers have identified issues educators should consider when planning vocabulary instruction, such as teaching vocabulary across the curriculum, providing students with multiple exposures to words, connecting vocabulary to background knowledge, and engaging in a variety of instructional activities. Since it is not possible for teachers to provide direct instruction for all of the words their students do not know, studies have identified strategies that help students learn word meanings on their own, including independent reading, studying word parts, and using context clues to analyze surrounding text. Miami-Dade County Public Schools (M-DCPS) promotes vocabulary growth for all students through direct and indirect instruction. Reading coaches and Language Arts department chairpersons have received professional development in vocabulary instruction and the district's teachers have participated in professional development focusing on reciprocal teaching and computer-assisted vocabulary instruction. M-DCPS students receive direct vocabulary instruction and engage in reading and writing activities designed to promote their vocabulary knowledge.

*For a review of the research on individual differences in early childhood vocabulary acquisition, please refer to another Information Capsule prepared by Research Services, entitled "Individual Differences in Vocabulary Acquisition."*

*All reports distributed by Research Services can be accessed at <http://drs.dadeschools.net> by selecting "Research Briefs" or "Information Capsules" under the "Current Publications" menu.*



## References

- Anderson, R.C., & Nagy, W.E. (1991). Word Meanings. In R. Barr, M.L. Kamil, P.B. Mosenthal, & P.D. Pearson (Eds.), *Handbook of Reading Research*. New York, NY: Longman Publishers.
- Anderson, R.C., & Nagy, W.E. (1992). The Vocabulary Conundrum. *American Educator*, 16(4), 14-18, 44-47.
- Apthorp, H.S. (2006). Effects of a Supplemental Vocabulary Program in Third-Grade Reading/Language Arts. *Journal of Educational Research*, 100(2), 67-79.
- Armbruster, B.B., Lehr, F., & Osborn, J. (2001). *Put Reading First: The Research Building Blocks for Teaching Children to Read*. Publication developed for the Center for the Improvement of Early Reading Achievement. Retrieved from [http://www.nifl.gov/partnershipforreading/publications/reading\\_first1.html](http://www.nifl.gov/partnershipforreading/publications/reading_first1.html).
- Baker, S.K., Simmons, D.C., & Kame'enui, E.J. (1995). *Vocabulary Acquisition: Synthesis of the Research*. Technical Report No. 13 for the National Center to Improve the Tools of Educators, University of Oregon, Eugene, OR. Retrieved from <http://idea.uoregon.edu/~ncite/documents/techrep/tech13.html>.
- Baumann, J.F., Edwards, E.C., Boland, E.M., Olejnik, S., & Kame'enui, E.J. (2003). Vocabulary Tricks: Effects of Instruction in Morphology and Context on Fifth-Grade Students' Ability to Derive and Infer Word Meanings. *American Educational Research Journal*, 40(2), 447-494.
- Bazeli, M.J., & Olle, R.E. (1995). Using Visuals to Develop Reading Vocabulary. In *Eyes on the Future: Converging Images, Ideas, and Instruction*. Selected Readings from the Annual Conference on the International Visual Literacy Association, Chicago, IL.
- Beck, I.L., & McKeown, M.G. (2001). Text Talk: Capturing the Benefits of Read-Aloud Experiences for Young Children. *The Reading Teacher*, 55(1), September 2001. Retrieved from [http://teacher.scholastic.com/products/texttalk/pdfs/Capturing\\_the\\_Benefits.pdf](http://teacher.scholastic.com/products/texttalk/pdfs/Capturing_the_Benefits.pdf).
- Biemiller, A. (2000). Teaching Vocabulary: Early, Direct, and Sequential. *Perspectives*, 26(4), Fall 2000. Retrieved from <http://www.fcoe.net/ela/pdf/Biemiller%20vocab%20%20doc.pdf>.
- Biemiller, A. (2003). Teaching Vocabulary in the Primary Grades: Vocabulary Instruction Needed. In J. Baumann & E. Kame'enui (Eds.), *Reading Vocabulary: Research to Practice*. New York, NY: Guilford Press.
- Biemiller, A. (2007). The Influence of Vocabulary on Reading Acquisition. In D. Jamieson, S. Rvachew, L. Siegel, H. Deacon, E. Geva, & N. Cohen (Eds.), *Encyclopedia of Language and Literacy Development*. London, ON: Canadian Language and Literacy Research Network. Retrieved from <http://www.literacyencyclopedia.ca/index.php?fa=items.show&topicId=19>.
- Block, C.C., & Mangieri, J.N. (2006). *The Effects of Powerful Vocabulary for Reading Success on Students' Reading Vocabulary and Comprehension Achievement*. Research Report 2963-005, Institute for Literacy Enhancement. Retrieved from [http://teacher.scholastic.com/products/fluencyformula/pdfs/powerfulvocab\\_Efficacy.pdf](http://teacher.scholastic.com/products/fluencyformula/pdfs/powerfulvocab_Efficacy.pdf).
- Burgess, M., & Tracey, D. (2006). *Read-Alouds in the School Setting*. Paper submitted in partial fulfillment of the requirements for the Master of Arts Degree, Kean University (formerly Kean College of New Jersey), Union, NJ.

- Carlisle, J.F. (2004). Morphological Processes Influencing Literacy Learning. In C.A. Stone, E.R. Silliman, B.J. Ehren, & K. Apel (Eds.), *Handbook on Language and Literacy: Development and Disorders*. New York, NY: Guilford Press.
- Clark, E. (1993). *The Lexicon in Acquisition*. Cambridge, UK: Cambridge University Press.
- Collier, L. (2007). *Effective Vocabulary Instruction*. The National Council of Teachers of English. Retrieved from <http://www.ncte.org/pubs/chron/highlights/126806.htm>.
- Cunningham, A., & Stanovich, K. (2003). Reading Can Make You Smarter. *Principal*, 83(2), 34-39.
- Dixon-Krauss, L. (2001). Using Literature as a Context for Teaching Vocabulary. *Journal of Adolescent & Adult Literacy*, 45(4), 310-318.
- Elliott, D.A., Formhals, M.A., & Wheat, J.G. (2002). *Word Detectives: Solving the Mystery of Vocabulary*. Action research project submitted in partial fulfillment of the requirements for the Master of Arts Degree, Saint Xavier University & IRI/Skylight, Chicago, IL.
- Ellis, E.S. (2002). *The Clarifying Routine: Elaborating Vocabulary Instruction*. LD Online. Retrieved from <http://www.ldonline.org/article/5759>.
- Fifer, N., Flowers, N., & Mountain, L. (2007). *Vocabulary from Classical Roots*. Educators Publishing Service. Retrieved from [http://www.epsbooks.com/downloads/research\\_papers/VCR\\_research.pdf](http://www.epsbooks.com/downloads/research_papers/VCR_research.pdf).
- Florida Literacy and Reading Excellence Center. (n.d.). *Vocabulary*. Retrieved from <http://flare.ucf.edu/ProfessionalPapers/FLaRE%20Professional%20Paper%20-%20Vocabulary.pdf>.
- Gleitman, L.R. (1998). *Invitation to Cognitive Science*. Cambridge, MA: Massachusetts Institute of Technology Press.
- Graves, M.F., Juel, C., & Graves, B.B. (2004). *Teaching Reading in the 21<sup>st</sup> Century* (3<sup>rd</sup> ed.). Boston, MA: Allyn & Bacon.
- Joe, A. (1996). Vocabulary Learning and Speaking Activities. *United States Department of State, Bureau of Educational and Cultural Affairs, Forum*, 34(1). Retrieved from <http://exchanges.state.gov/forum/vols/vol34/no1/p2.htm>.
- Kelley, M., Verry-Sidoran, L., Camp, D., Zygouris-Coe, V. (2003). *Strengthening Vocabulary Development*. Florida's Instructional Technology Resource Center, Online Reading Professional Development, Lesson 7. <http://www.itrc.ucf.edu/te>
- Lehr, F., Osborn, J., & Hiebert, E.H. (2004). *A Focus on Vocabulary*. Honolulu, HI: Pacific Resources for Education and Learning. Retrieved from [http://www.prel.org/products/re\\_ES0419.htm](http://www.prel.org/products/re_ES0419.htm).
- McKeown, M.G., & Beck, I.L. (2003). Direct and Rich Vocabulary Instruction. In J.F. Baumann & E.J. Kame'enui (Eds.), *Vocabulary Instruction: Research to Practice*. New York, NY: Guilford Press.
- Marinak, B.A., Moore, J.C., Henk, W.A., Keepers, M., Candeloro, L., Cranks, J., et al. (1997). *The Pennsylvania System of State Assessment Reading Instructional Handbook: Vocabulary*. Saint Mary's Area School District, Saint Mary's, PA. Retrieved from <http://smasd.k12.pa.us/pssa/html/reading/rihand1.htm>.
- Militante, D.A.K. (2006). *Read Aloud versus Shared Reading: The Effects on Vocabulary Acquisition, Comprehension, and Fluency*. Paper submitted in partial fulfillment of the requirements for the Master of Arts Degree, Kean University (formerly Kean College of New Jersey), Union, NJ.

- Miller, C.P. (2006). *The Face of Effective Vocabulary Instruction*. Education World. Retrieved from [http://www.education-world.com/a\\_curr/reading/ReadingCoach/ReadingCoach006.shtml](http://www.education-world.com/a_curr/reading/ReadingCoach/ReadingCoach006.shtml).
- Monroe, E.E. (1998). Using Graphic Organizers to Teach Vocabulary: Does Available Research Inform Mathematics Instruction? *Education*, 118(4). Retrieved from <http://www.questia.com/googleScholar.qst?docId=5001358519>.
- Mosher, D.J. (1999). *Improving Vocabulary Knowledge and Reading Attitudes in 4<sup>th</sup> Grade Students Through Direct Vocabulary Instruction*. Action research project submitted in partial fulfillment of the requirements for the Master of Arts Degree, Saint Xavier University & IRI/Skylight, Chicago, IL.
- Nagy, W.E. (1988). *Teaching Vocabulary to Improve Reading Comprehension*. Newark, DE: International Reading Association.
- Nagy, W.E., & Anderson, R.C. (1984). How Many Words Are There in Printed School English? *Reading Research Quarterly*, 19(3), 304-330.
- National Institute for Literacy. (2007). *Vocabulary Instruction*. Retrieved from <http://www.nifl.gov/partnershipforreading/explore/vocabulary.html>.
- National Reading Panel. (2000). *Teaching Children to Read: An Evidence Based Assessment of the Scientific Research Literature on Reading and its Implications for Reading Instruction*. Washington, D.C.: National Institute of Child Health and Human Development.
- Nilsen, A.P., & Nilsen, D.L.F. (2003). *Vocabulary Plus: A Source-Based Approach*. Boston, MA: Allyn & Bacon.
- Penno, J.F., Wilkinson, I.A.G., & Moore, D.W. (2002). Vocabulary Acquisition From Teacher Explanation and Repeated Listening to Stories: Do They Overcome the Matthew Effect? *Journal of Educational Psychology*, 94(1), 23-33.
- Robbins, C., & Ehri, L.C. (1994). Reading Storybooks to Kindergartners Helps Them Learn New Vocabulary Words. *Journal of Educational Psychology*, 86(1), 54-64.
- Ruivo, P. (2006). *Reading Aloud: Companion Reader vs. No Companion Reader*. Paper submitted in partial fulfillment of the requirements for the Master of Arts Degree, Kean University (formerly Kean College of New Jersey), Union, NJ.
- Senechal, M. (1997). The Differential Effect of Storybook Reading on Preschoolers' Acquisition of Expressive and Receptive Vocabulary. *Journal of Child Language*, 24(1), 123-138.
- Shostak, J. (2002). *The Value of Direct and Systematic Vocabulary Instruction*. Sadlier-Oxford Professional Development Series 7. Retrieved from [http://www.sadlier-oxford.com/docs/pdf/9147-9\\_VW\\_WhitePaper\\_Vol7.pdf](http://www.sadlier-oxford.com/docs/pdf/9147-9_VW_WhitePaper_Vol7.pdf).
- Smith, C.B. (1997). *Vocabulary Instruction and Reading Comprehension*. Bloomington, IN: ERIC Clearinghouse on Reading English and Communication. Retrieved from <http://www.ericdigests.org/1998-1/vocabulary.htm>.
- Smith, J.J. (2002). *The Use of Graphic Organizers in Vocabulary Instruction*. Paper submitted in partial fulfillment of the requirements for the Master of Arts Degree, Kean University (formerly Kean College of New Jersey), Union, NJ.

- Szymborski, J.A. (1995). *Vocabulary Development: Context Clues versus Word Definitions*. Paper submitted in partial fulfillment of the requirements for the Master of Arts Degree, Kean College of New Jersey, Union, NJ.
- Texas Education Agency. (2002). *Promoting Vocabulary Development: Components of Effective Vocabulary Instruction*. Retrieved from [http://www.netxv.net/pm\\_attach/67/Promoting%20vocabulary%20Instructionredbk5.pdf](http://www.netxv.net/pm_attach/67/Promoting%20vocabulary%20Instructionredbk5.pdf).
- Venetis, A. (1999). *Teaching Vocabulary: Within the Context of Literature and Reading or Through Isolated Word Lists*. Paper submitted in partial fulfillment of the requirements for the Master of Arts Degree, Kean University (formerly Kean College of New Jersey), Union, NJ.
- Weizman, Z.O., & Snow, C.E. (2001). Lexical Input as Related to Children's Vocabulary Acquisition: Effects of Sophisticated Exposure and Support for Meaning. *Developmental Psychology*, 37(2), 265-279.
- White, T.G., Graves, M.F., & Slater, W.H. (1990). Growth of Reading Vocabulary in Diverse Elementary Schools: Decoding and Word Meanings. *Journal of Educational Psychology*, 82(2), 281-290.
- Wood, J. (2001). Can Software Support Children's Vocabulary Development? *Language, Learning & Technology*, 5(1), 166-201.
- Zaner-Bloser. (n.d.). *The Research Behind the Importance of Teaching Vocabulary*. Retrieved from <http://www.zaner-bloser.com/pdf/WordWisdomResearchspdstosingle.pdf>.