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2007

# An Evidence Base of Vocabulary Development: Theory and Instruction

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# An Evidence Base of Vocabulary Development: Theory and Instruction

## Abstract

Researchers have discussed the importance of vocabulary instruction for elementary students at length. The magnitude of the task is daunting, as is trying to choose which words to teach out of the many thousands. The question of how best to teach the thousands of words students need to be successful is difficult to answer. Direct instruction or learning words incidentally are two approaches discussed in the research. There are multiple factors that affect a student's vocabulary acquisition, including socioeconomic level, parental conversation, and whether English is a first or second language for the child. Additionally, the impact of vocabulary development on reading comprehension is of great importance. This paper will explore the various facets of vocabulary development.

AN EVIDENCE BASE OF VOCABULARY DEVELOPMENT:

THEORY AND INSTRUCTION

A Graduate Review

Submitted to the

Division of Elementary Education

In Partial Fulfillment

Of the Requirements for the Degree

Master of Arts in Education

UNIVERSITY OF NORTHERN IOWA

by

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July 2007

This Review by: Susan L. Stark

Titled: An Evidence Base of Vocabulary Development: Theory and Instruction

has been approved as meeting the research requirements for the

Degree of Master of Arts in Education.

*July 24, 2007*

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Abstract

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length. The magnitude of the task is daunting, as is trying to choose which words to teach out of

the many thousands. The question of how best to teach the thousands of words students need to

be successful is difficult to answer. Direct instruction or learning words incidentally are two

approaches discussed in the research. There are multiple factors that affect a student's vocabulary

acquisition, including socioeconomic level, parental conversation, and whether English is a first

or second language for the child. Additionally, the impact of vocabulary development on reading

comprehension is of great importance. This paper will explore the various facets of vocabulary

development.

## Introduction

Our knowledge of words determines how we understand texts, defines who we are, and defines the way we see the world (Stahl, 1999). Words help us to communicate, understand, and define the world. As we witness children growing, the preciseness of their language grows. A two-year-old may call anything round a ball. As that same child grows, he begins to make greater distinction about the object: ball. An object once called ball becomes an apple, or an orange, or a baseball or basketball. These distinctions add to the depth of understanding the child has. This little boy uses words for many purposes. "We use words to think; the more words we know the finer our understanding of the world" (Stahl, 1999, p.1).

*Description of Topic*

Words are synonymous with language, terms, expressions, terminology, lexis, and yes, vocabulary. Vocabulary is the expression used to encompass these words. It is more than words; it is the understanding of them, the acquisition of them, and the application of them. Many over the years have studied vocabulary. Researchers are interested in how large the number of words needing attention is, how best this is accomplished, variations among children, and vocabularies affect on comprehension.

*Rationale for Review*

Words are so important. They are the way we express ourselves, either with the spoken word or by the pen. Feelings, thoughts, ideas, and our lives are shared through words. Stahl and Kapinus (2001) quoted Samuel Beckett (1906-1989) as once saying, "Words are all we have" (p. 24). Whether you agree or not, those words caused you to feel something. That is the power of words. We can alter the state of our world through the influence of words. As I ponder words, their uses, how I came to recognize them, and their importance I knew I wanted to learn more. I

was so intrigued by a book on vocabulary that I could not put it down. The choice of vocabulary

development for this review arose out of a love of words.

*Importance of Review*

Vocabulary knowledge, according to Stahl (1999), plays a central role in so many aspects

of mental behavior. This stated, Biemiller (2001) argued that there is very little emphasis on

vocabulary acquisition in school curricula. These two statements help point to the need for more

in depth knowledge of vocabulary acquisition to assist students to learn words in a meaningful,

long-lasting, and successful manner.

The world is an increasingly complicated place. Students use words to help themselves

make sense of it. Students who begin school with small oral vocabularies are at greater risk than

those who have a well-developed spoken or listening vocabulary (Lehr, Osborn, and Hiebert,

2004). This oral vocabulary transforms, later in the educational process, into a productive

vocabulary. Teachers are very aware that students who do not know very many words are

unlikely to be good readers or good students (Anderson and Nagy, 1993). Stahl and Kapinus, in

2001, stated:

> Student's ability to understand and use words that surround them every moment will, in
> large part, help determine their academic success. That is why it's so important for every
> student to have as broad a vocabulary as possible. It is related to many important aspects
> of life, from reading comprehension to future salary (p.7).

Even as widespread as this knowledge is, the level of vocabulary instruction ebbs and flows as

the years pass. Biemiller (2003) lifted vocabulary instruction to new heights when he

commented, "building vocabulary is as important as learning to identify printed words" (p. 330).

This review is important because it attempts to bring together pieces of related research that

focus on vocabulary and develop parameters of vocabulary development and instruction.

*Terminology*

For the purposes of this review, a number of terms need to be defined:

- *Vocabulary instruction:* "…is used to refer to the teaching and development of students' understandings of word meanings" (Blachowicz, Fisher, and Watts-Taffe, 2005, p. 2).

- *Vocabulary:* "…is the knowledge of words and word meanings" (Lehr, et al., 2004, p. 5).

- *Receptive vocabulary:* "…includes words we recognize when we hear or see them. (Lehr, et al., p. 5)

- *Productive vocabulary:* "…includes words that we use when we speak or write" (Lehr, et al., p. 5).

- *SES:* Abbreviation of socioeconomic status.

*History of Research*

Stahl (1999) reported that, nearly 100 years ago, Edward L. Thorndike, the most prominent educational psychologist of his time, conducted a simple study of the errors children made in answering questions. He discovered that children who struggled to understand a selection did not know the meanings of the words used in the selection. His study had a profound affect on reading research. The research continues today with work of such authors as Stahl, Chall, Graves, Beck, McKeown, Kucan, Perfetti, Biemiller, and many others. The amount of research on vocabulary is substantial.

*Research Questions*

Stahl (1999, pp. 1-2) stated that much of the research conducted since Thorndike's time has centered around four questions:

- What is the relationship between vocabulary knowledge and reading comprehension?

- How many words do people know?

- What does it mean to "know" a word?

- How do people learn words from context?

Other questions have also been raised regarding vocabulary instruction and include:

- Does direct instruction or incidental exposure to word meaning have the largest impact on vocabulary acquisition?

- What is the total number of words teachers should teach?

- Which words does one choose to teach?

For the purposes of this review, I proposed the following questions:

- Why are vocabulary instruction and vocabulary learning so important and yet so difficult?

- What is the size of the vocabulary task?

- How does a student's background, SES, or primary language impact, vocabulary acquisition?

- What direct or incidental methods can teachers utilize to teach vocabulary?

## Methodology

Research literature for this review was located three ways: ERIC/EBSCO searches, recommended books, and Google internet searches. Key words for searches included: vocabulary, vocabulary development, and vocabulary acquisition. Some sources were located based on the bibliographic information of another source. ERIC/EBSCO searches were also conducted on specific vocabulary authorities, including: Steven Stahl, Camille Blachowicz, Peter Fisher, Isabel Beck, Margaret McKeown, Michael Graves, Andrew Biemiller, William Nagy, and Richard Anderson. These researchers were selected because of the proliferation of their work, and how often they were cited in other work.

Reliability of the research was one limiting factor for choosing a specific piece of work. The source was skimmed for appropriate and required sections for a research article. Once the authenticity of the research was substantiated, the article was read in-depth. The purpose of this reading was to locate any misinformation, absence of depth of research, and the quality of the writing.

Procedures to analyze sources included thoroughly reading each article. During the in-depth reading notes were taken, and information was organized around main topics. The main ideas presented in the articles set up the coding structure for note taking. As reading progressed, subtopics emerged, and I added them to the outline of the paper.

I included an article or book in this review if it met the selection criteria, had substantial new information, and did not repeat other works deemed more critical to study. If a particular selection had alternate views that gave varying or opposing perspectives to an already chosen article I used it also. I tried diligently to eliminate bias in the selection process. Choice of literature was not merely that they answered my questions.

Literature Review

*Size of the Vocabulary Learning Task*

In order to know where to begin with the topic of vocabulary, there is a need to have an idea of the size of task students face (Anderson and Nagy, 1993). Some claim that the average high school senior knows 8,000 words; others set the number at nearly 50,000 words (Anderson and Nagy, 1993, Graves, 2006; Nagy and Anderson, 1984). There is a large difference between 8,000 and 50,000 words.

Reporting on the research of Nagy and Anderson (1984), Stahl (1999) estimated that the number of word families used in K-12 schoolbooks may reach 88,700 words. Anderson and

Nagy (1984) extensively researched vocabulary development. In their article, *The Vocabulary Conundrum*, they "calculate the number of distinct words in printed school English to be 88,500 words" (p. 3).

Among scholars, there is little agreement about the number of words students are expected to learn each academic year. Anderson and Nagy (1993) argued the average high school senior knows 40,000 words and that the average student in elementary or high school probably learns 2,000 to 3,000 new words each year (p. 3).

Contested by a few, their estimates are accepted as at least approximately correct by most vocabulary authorities on vocabulary development. Biemiller's (2001) research stated that there are approximately 600 root word meanings learned per year from infancy to the end of elementary school" (p 2). Biemiller (2003) pointed out additional conflict regarding the number of words students learn annually. He stated that his research included a broader spectrum of learners than the Nagy and Anderson's (1984) study and is therefore more accurate.

Regardless of the exact number of words to be learned or the number expected to be learned each year, the size of the task is substantial. Several authors pointed out that there are ways to grasp the number without coming away feeling beaten before the job begins. The goal is to help students, all students, develop extensive vocabularies. This means learning upwards of 50,000 words (Graves, 2006). Graves went on to point out that "the English language includes very large numbers of infrequent words and a very small number of frequent ones" (2006, p. 14). In Fry's Instant Word list (as quoted from Graves, 2006, p. 14), the first 100 words account for 50% of the words used in school material. The first 300 words account for 65%. Biemiller (2003) suggested that numbers of words learned as 2.2 words per day from age one through age

eight (end of second grade), and 2.4 words per day from ages 9 to 12. Stahl (1999) suggested 8-10 words per week or 300-600 words per year to be taught annually through direct teaching.

The number of words in the English printed text seems large but the goal of learning the relatively small number of frequent words students will encounter will mean students will not stumble over them causing them not to understand the text. "There are far too many words to teach all of them directly, but there is a much smaller number of frequent words which can be taught directly" (Graves, 2006, p. 15). Beck, McKeown and Kucan (2002) emphasized this point by stating that "the task of directly teaching vocabulary is simply too large" (p. 7). They also stated that not all words need direct attention.

Context is another way students learn words, and as Stahl (1999) pointed out, "it can be a powerful influence on student's vocabulary growth" (p.10). Through direct instruction and incidental learning an individual's vocabulary grows. The difficulty of vocabulary acquisition greatly influences the instruction and the learning of words and word meanings.

*Importance of Vocabulary*

Many researchers and authors alike espouse the importance of vocabulary. Petty, Herold and Stoll (1967) put it this way:

> The importance of vocabulary is daily demonstrated in schools and out. In the classroom, the achieving students possess the most adequate vocabularies. Because of the verbal nature of most classroom activities, knowledge of words and ability to use language are essential to success in these activities. After schooling has ended, adequacy of vocabulary is almost equally essential for achievement in vocations and in society (As cited in Grave, 2006, p. 1).

There are multiple compelling arguments stated by any number of vocabulary authorities. One theme from the readings was the connection between vocabulary and lifelong learning and future success. Blachowicz and Fisher (2004) felt so strongly about it that they reported that, "developing a strong vocabulary not only promotes reading comprehension but also enables us to

actively participate in our society" (p. 66). They went on to state that vocabulary has importance in preparing students to enter the world of work (2004).

Vocabulary has its impact not only in the world of education as previously noted but it has multiple implications in many other areas. Manzo, Manzo, and Thomas (2006) detailed this point in the following list of durable reasons for sustained vocabulary development:

- Word power is a painlessly acquired way to feel and be more effective, and therefore, to raise self-esteem.

- Elevated language tends to reduce self-centeredness and point us toward higher purpose.

- Words are humankind's means of sharing.

- About 98% of human teaching and learning passes through language.

- Words help capture vague feelings.

- Words advance human understanding.

- Vocabulary level has the highest correlation to all factors and with every measure of every aspect of intelligence.

- Researchers have not been able to find the upper limits of human capacity to learn new words (pp. 615-616).

Words, and the knowledge of words, affect so many aspects of our lives. Education is the central stage where words come to life. Vocabulary's importance in schools is too vast for the scope of this paper. I included a few points and expanded on some later in this review. Lehr et al. (2004) stated, "given that student's success in school and beyond depends a great deal upon their ability to read with comprehension, there is an urgency to providing instruction that equips students with skills and strategies necessary for lifelong vocabulary development" (p.2). Beck, McKeown, and Kucan (2002) contended, "It is clear that a large and rich vocabulary is the

hallmark of an educated individual" (p.1). Graves (2006) developed a comprehensive list of research on vocabulary and its importance to education:

- Vocabulary is one of the best indicators of verbal ability.

- Vocabulary knowledge contributes to a young child's phonological awareness, which in turn contributes to their word recognition.

- Vocabulary knowledge in kindergarten and first grade is a significant predictor of reading comprehension in the middle and secondary grades.

- Vocabulary difficulty strongly influences the readability of text.

- Teaching vocabulary can improve reading comprehension for both native English speakers and English learners (pp. 2-3).

Vocabulary's importance plays out in society and in education. While its importance may seem clear, its instruction is not so easily accomplished.

*Difficulty of Vocabulary Acquisition*

Part of the difficulty found in vocabulary instruction lies in teacher and the educational arenas perspectives. Graves (2006) voiced his concern by sharing that research finds, "teachers generally saw the purpose of vocabulary instruction as assisting students with the selection being read and not in terms of the more general goal of building students' vocabularies in ways that would be beneficial both in and out of school" (p. 17). Teachers do address vocabulary in their classrooms but several authors pointed out that it is surface attention or less in some cases. Biemiller (2001) stated, he and Jeanne Chall both, "had come to the conclusion that vocabulary growth was inadequately addressed in current educational curricula" (p.1). He also declared in his 2003 work that "while many teachers may teach 100 to 200 word meanings in a course of a

year, children need to acquire at least 800 word meanings a year" (p. 329).

For many years, basal readers have been the foundation of reading instruction. Watts (2003) reviewed five of the most widely used basal reading programs. He noted that they did not attempt the kind of word knowledge that is necessary. The review of minutes allotted for vocabulary instruction does not show a substantial amount of time. Durkin (1978/79) found that only 4% of observed time was for vocabulary instruction. Roser and Juel (1982) discovered that only 5% of observed time was devoted vocabulary instruction. Scott, Jamieson-Noel, and Asselin (2003) noted that teachers do much mentioning and assigning but little actual teaching of new vocabulary. The research noted here points out some concerns regarding vocabulary instruction.

*Group Membership Effect on Vocabulary Acquisition*

*Disadvantaged children/low socioeconomic status.* "Word poverty" is a term Louisa Cook Moats coined to "label confusion over word meaning and general gaps in vocabulary knowledge" (Juel and Diffes, 2004, p. 31). She also suggested that word poverty seems most prevalent in three groups: minorities, English-language learners, and those from low socioeconomic settings. The documentation is substantial regarding the variation from among socioeconomic groups regarding word knowledge. Juel and Diffes (2004) stated that Moats found a difference of 15,000 between the advantaged and disadvantaged first graders. Beck and McKeown (2007) "found that several studies of first graders from high SES status knew at least twice as many words as lower SES children" (p. 252). They also noted that "high school seniors near the top of their class knew about four times as many words as their lower performing classmates" (p. 252). A difference in vocabulary size has a ripple effect on several aspects of a

child's life, and conversely a child's life has an effect on their vocabulary development.

Cunningham (2006) stated this two-sided coin as how "children differ greatly in the size of their meaning vocabularies at school entrance and those with small vocabularies tend to add fewer words than those with larger vocabularies" (p. 708). Blachowicz et al. (2005) reported it this way: "Children in economically disadvantaged households were exposed to significantly fewer words, which was related to their vocabulary use and rate of vocabulary growth during these formative years. Clearly, poverty is a factor in vocabulary development" (p. 3). Poverty affects students' vocabulary in many layers.

According to Joshi (2005), "students' vocabulary knowledge is influenced by the amount of words they are exposed to from their early years" (p. 211). He went on to say that, these numbers are substantial; children from higher SES families' exposure to words were three times as many as lower SES households. There is also a difference in the kinds of words children know and use. Higher SES children exposure to words included more encouraging, supportive words. In contrast, lower SES children's exposure to words included more words with negative connotations. Harmon, Hedrick, and Wood (2005) contested that, "factors such as parent education level and family income influence reading achievement" (p. 264). They attribute this to the test results of various vocabulary measures.

Poor vocabulary development in the early years has negative affects on various aspects of learning. Joshi (2005) reported, "children with poor vocabulary tended to define words in terms of the context in which they encountered them, while children with better vocabulary knowledge defined words in more general and abstract terms" (p. 211). The inability to expand upon word knowledge affects writing, comprehension, and other language skills.

Connections are vitally important to learning, reading, education, and life. The more

connections an individual makes with a topic, text, or conversation, the more able to they are to create lasting learning related to it. Learners who do not have access to words limits the "readers ability to make connections with their existing background knowledge inhibits their capacity to make coherent inferences, and affects their ability to reason thoughtfully about the text" (Rupley and Nichols, 2005, p. 241). This smaller connection base reduces the schema to which children can connect new learning. Vocabulary development is a continuous process. Each encounter with technology, video, text, pictures, and other people adds to a child's word bank. The bank needs a solid foundation in order for students to be able to withdraw words and understanding from it. "Children's knowledge of vocabulary closely reflects their breadth and depth of their real work and vicarious experiences, as well as their communicative interactions with parents and other adults" (Rupley and Nichols, 2005, p. 241, quoting research from Hart & Risley, 1995; Tizard, Cooperman, Joseph, and Tizard, 1972). A child's socioeconomic level will influence the child's ability to learn and that in turn will influence the child's ability to acquire new vocabulary. "Poorer readers know less about fewer words than do more able readers, and poorer readers are frequently unmotivated or unable to do the amount of contextual reading required to extend their vocabularies" (Blachowicz and Lee, 1991, p. 191).

### The Disadvantaged and School

The degree to which a child from a low SES home learns in school may be influenced by the attributes of the school. Graves (2001) investigated the relative size of the vocabularies of higher, middle, and lower ability readers. Their vocabulary size, as pointed out earlier, varied greatly. The item of importance here is that the students in all levels knew the majority of easy words. "As the words became more difficult, the number of words known by the lower readers declined more rapidly than the other two groups" (p. 208). Beck and MeKeown (2007)

commented that once established differences in vocabulary become more permanent. According to Beck and McKeown, (2007) "schools need to focus on enhancing children's vocabulary from the beginning of school" (p. 252). Further discussion surrounding this position is Blachowicz and Fisher's (2004) belief that placing students from low SES homes in high literacy classrooms could reverse the vocabulary gap. Graves (2001) also states that poor reader's word knowledge skills are poorer than their context skills. This guides schools to argue for the importance of increasing poor readers' word knowledge or vocabulary instruction.

*"The Matthew Effect"*

The expression, "Matthew Effect", has its origin in the writings of Stanovich (1986). He applied the verse Matthew 25:29—"the rich get richer and the poor get poorer" to language development. "In terms of vocabulary development, good readers read more, become better readers, and learn more words; poor readers read less, become poorer readers, and learn fewer words" (Lehr, et al., 2004, p. 6). Fisher and Blachowicz (2005) expressed this sentiment this way: "the less-advantaged students read books with simple levels of vocabulary and are exposed to fewer new words—the vicious cycle is established, with the gap between the 'haves' and 'have-nots' widening with each year" (p. 281). Cunningham and Stanovich (1998) went one step farther saying, "the combination of deficient decoding skills, lack of practice, and difficult materials results in unrewarding early reading experiences  that lead to less involvement in reading-related activities" (p. 1). These authors poignantly described the state of some readers. English-language learners also have unique attributes that make their vocabulary development more complicated.

*English-Language Learner.* The increasing number of foreign language speakers in the

school districts of the United States has added a new dimension to vocabulary instruction. Graves (2004) pointed out "vocabulary plays a major role in learning to read a second language" (p. 33). It is logical that if one does not know the vocabulary of a language, reading, speaking, and understanding that language will be much more difficult. Lehr et al. (2004) wrote that one of the major difficulties is the English-language learners lack understanding of abstract English words.

The limited knowledge of English vocabulary affects English-language learners in at least four ways: building of social relationships with others, participation in school routines, understanding written text, and comprehension of the content areas (Blachowicz, et al., 2005). These areas offer vocabulary-learning challenges, as well as opportunities.

Graves (2006) stated that to date there have been relatively few research experiments conducted regarding English-language learners and vocabulary acquisition. Recently, the numbers have increased due to the increasing numbers of ELL students in our schools. The current research pointed to the teaching of cognates, words that are similar to the native language and English. Blachowicz et al. (2005) quoted Nash's 1997 research that states, "there are between 10,000 and 15,000 Spanish-English cognates" (p. 33). Cognates may account for up to one-half of the average person's active vocabulary; indicating that teaching how to use cognates could be highly beneficial (Blachowicz et al.). There are many considerations in regards to the English-language learners. Graves (2006) listed several key thoughts:

- Much of the instruction appropriate for teaching to native English speakers is appropriate for English-language learners.

- Students need to develop their oral language skills in both their native language an in English.

- Students need to develop basic oral and reading vocabulary of the most frequent English

words.

- Students need a vocabulary much larger than 2,000 words.

- Students need to master word-learning strategies—using context, word parts and the dictionary

- English-language learners may be unique, but they are still just that, language learners, so the rich, varied, and active instruction that benefits native language speakers will also benefit ELL students (pp. 33-34).

*Vocabulary Instruction*

*Receptive to productive vocabulary.* Graves (2006) classified vocabulary into two main categories: "receptive (words we understand when others use them) and productive (words we use themselves)" (p. 11). They can also be oral or written. Graves (2006) believes there are "four vocabularies:

- Receptive-oral—words we understand when we hear them.

- Receptive-written—words we can read.

- Productive-oral—words we use in our speech.

- Productive-written—words we use in our writing.

These four vocabularies overlap but are not the same, and the relationship between them change over time" (p. 11).

Most children entering school have a listening (receptive-oral) vocabulary of over 5,000 words. Teens leaving high school have a range of receptive and productive vocabularies between 50,000 and 80,000 words (Graves and Watts, 1997).

Conversations with adults and other children are the primary source of a young child's

oral vocabulary. While conversation may be the primary source, they may lack words children need to expand their vocabularies. Beck and McKeown (2007) noted that, "everyday conversations rarely contain words beyond the most common ones" (p. 252). In addition, the stories that young readers read are limited to words the students know orally. Blachowicz and Fisher (2004) stated that, "a young student's reading vocabulary generally runs about two years behind his or her oral vocabulary" (p. 67). Joshi (2005) added, "there is a gap between students' receptive and productive vocabulary" (p. 67). Teachers can help students develop their productive vocabulary by encouraging them to use their receptive vocabulary as much as possible when they speak and write (Joshi, 2005). Speaking with or listening to another person is not the only way words are learned. There are other types of incidental learning that takes place in and out of school.

*Incidental vocabulary learning: listening and reading.* Incidental learning occurs through experiences with oral language and wide reading. These opportunities often reflect choices made by parents, family members, and teachers. The inclusion of conversation, read-alouds, and books, is at times, in the hands of adults. The argument then is do we incorporate experiences for students as a way to build vocabulary or not. There is substantial research supporting this aspect of vocabulary instruction.

"For a long time the strongest reason for believing that most vocabulary is picked up while reading was a 'default argument'" (Anderson and Nagy, 1993, p. 8). Where else could students be learning several thousand words a year? Anderson and Nagy (1993) state that "it would be very difficult to prove that most vocabulary growth comes naturally through reading" (p. 8), but "there is evidence that a substantial amount of students' vocabulary growth comes through reading" (p. 8). Cunningham (2006) stated that, "many words occur more frequently in

written text than in spoken language" (p. 706).  Most speech is "lexically impoverished

compared to written language" (Cunningham and Stanovich, 1998, p. 2).  While these comments

may seem to be a dichotomy of thought, they add to the belief that the amount of words

individuals amass cannot all come from direct instruction.

As shown in Table 1, the relative rarity of words in children's books is far greater than

adult conversation except expert witness testimony.  The number of rare words in children's

books compared to speech is amazing.  There are 28.4 rare words in expert witness testimony

and rare words number 30.9 in children's books.  There are 13.6 more rare words in children's

books than in adult speech.  Examination of the types of words in various text types revealed that

adult books only have 21.8 rare words per 1000 words more than children's books.  Stahl and

Stahl (2004) are quoted by Graves (2006) as saying, "books are where the words are" (p. 40).  .

When adult books are compared to adult speech, there is a difference of 35.4 words.  The

implication Cunningham and Stanovich made (1998) is that "most vocabulary is acquired outside

of formal teaching, then there are many opportunities for word learning to occur during reading"

(p. 3).  The vocabulary authorities read for this review stated over and over the need for wide

reading by all ages.  Reading does not begin when a child can read; it begins with an adult

reading with a child.  Books are where the words are, as children are exposed to more words their

vocabulary will grow.

The number of minutes a child's watches television is astounding.  According to the

Federal Communications Commission, (2007) "on the average, children in the United States

spend approximately three hours a day watching television" (p. 1).  Compared to the data in

Table 1, the average children's television program has only 20.7 rare words per 1000 words.  If a

child spends time reading, they will be exposed to many more rare words in the same amount of

time. Data in Table 1 shared sources of words, while the data in Table 2 shared minutes of

reading time compared to words read.  In comparison, if a child reads 65 minutes per day, they

read 4, 359, 000 words and would be exposed to an astounding 134, 693 rare words.

| | | Rank of Median Word | Rare Words Per 1000 |
|---|---|---|---|
| | **Table 1** Selected Statistics for Major Sources of Spoken and Written Language (Sample Means) | | |
| I. | Printed Texts | | |
| | Abstracts of scientific articles | 4389 | 128.0 |
| | Newspapers | 1690 | 68.3 |
| | Popular magazines | 1399 | 65.7 |
| | Adult books | 1058 | 52.7 |
| | Comic books | 867 | 53.5 |
| | Children's books | 627 | 30.9 |
| | Preschool books | 578 | 16.3 |
| II. | Television texts | | |
| | Popular prime-time adult shows | 490 | 22.7 |
| | Popular prime-time children's shows | 543 | 20.7 |
| | Cartoon shows | 598 | 30.8 |
| | *Mr. Rogers* and *Sesame Street* | 413 | 2.0 |
| III. | Adult speech | | |
| | Expert witness testimony | 1008 | 28.4 |
| | College graduates to friends, spouses | 496 | 17.3 |

*Note:* Adapted from D.P. Hayes and M. Ahrens (1988), Vocabulary simplification for children:

A special case of "motherese'" *Journal of Child Language, 15,* p. 401.

"This research indicates that one powerful way for students to learn words and build vocabulary is to read frequently and widely" (Stahl and Kapinus, 2001, p. 11). Graves (2006) "very strongly recommends some sort of in-class independent reading program in elementary grades" (p. 40). To build vocabulary, he (2006) went on to proclaim, "Students need to read outside of school" (p. 40). Books are where the words are. Stahl and Stahl made this point so very poignantly, especially when one considers the variation of exposure to words Anderson, Wilson, and Fielding shared in Table 2. Table 2 points out that the number of words a child reads each year differs greatly and is dependent on the number of minutes he or she reads. The difference between a child reading at the 50$^{th}$ percentile and the 80$^{th}$ percentile is 1,541,000 words. If a teachers could push a child to read just 10% more or 1.9 minutes more a day, that child would read 150,000 more words a year. A change of 20% means 340,000 more words a year. Stahl (1999) asserts also that annual growth in vocabulary development comes from incidental learning, and that one of the most powerful things we can do is to encourage students to read as widely as possible. Blachowicz and Lee (1991) stated, "Surveys of effective instruction concluded that vocabulary must be learned in meaningful contexts with wide reading" (p. 190).

Wide reading not only increases a child's exposure to more words, they encounter more rare words, which build vocabulary. Vocabulary is words and words are in the books children read. Blachowicz and Fisher (2007) talked about a *flood of words* as being an essential component of a child's education. "Rich oral and rich book language experiences provide important input for student's vocabulary growth" (p. 180). Wide reading, as pointed out by

Table 2
Variation in Amount of Independent Reading

| % | Independent Reading Minutes per day | Words read Per Year |
|---|---|---|
| 98 | 65.0 | 4,359,000 |
| 90 | 21.1 | 1,823,000 |
| 80 | 14.2 | 1,146,000 |
| 70 | 9.6 | 622,000 |
| 60 | 6.5 | 432,000 |
| 50 | 4.6 | 282,000 |
| 40 | 3.2 | 200,000 |
| 30 | 1.3 | 106,000 |
| 20 | 0.7 | 21,000 |
| 10 | 0.1 | 8,000 |
| 2 | 0.0 | 0 |

*Note:* Adapted from R. C. Anderson, P. T. Wilson, and L. G. Fielding (1988), Growth in reading and how children spend their time outside of school. *Reading Research Quarterly, 23*, p. 285-303.

Blachowicz and Fisher, helps students develop a wide, flexible, and usable vocabulary. Reading is a simple thing, which provides many layers of learning. A child that comes from a language-impoverished background may need more assistance to read as widely as necessary for vocabulary growth. Assistance for the child can come in the form of reading with them storybooks they love and adore and novels that are more difficult.

Recommended wide reading can include storybook reading by an adult. Often read-aloud books are several grade levels above the students reading level. Listening to new and challenging words benefit students' vocabulary development, according to Graves (2006). Stahl, Richek, and

Vandevier (1990) asserted, "that children can learn a significant amount of word meanings from exposure to an oral presentation" (p.8). Because of their research, they contend that even the lowest third of the students learn word meaning from material above their grade level through listening. Blachowicz et al. (2005) generated a list of the benefits of read-alouds in both school and home settings:

- Children learn the meanings of unknown words through incidental exposure during storybook reading.

- Children learn more words when books are read multiple times.

- Children do not benefit from being *talked at* or *read to*, but from being *talked with* and *read with*.

- Children learn more words when books are read in small settings.

- In a school setting, the effect of reading storybooks on vocabulary is relatively small for children under four years old, while relatively large for children over five.

- With traditional storybook readings, the vocabulary differences between children continue to grow over time (p. 21).

To get the most out of read-alouds, the authors testified that the reading must include some direct teaching of vocabulary, be interactive, include some discussion, repeated reading of stories, and reading of both familiar and unfamiliar books (Blachowicz, et al., 2005).

Shin (2004) asserted that, "independent reading appears to be a far more important source of vocabulary growth than direct vocabulary instruction" (p. 20). There is research, however, that contends direct instruction is a valuable method for vocabulary development.

*Direct instruction.* The debate over direct instruction of vocabulary has as long a history

as education does.  Anderson and Nagy (1993) maintained that, "research suggests that in the typical classroom, direct instruction is provided on only about 300 words during the course of a school year" (p. 8).  The number of words learned by the average student is approximately 3,000 words.  (Stahl, 1999, p. 3)  The substantial difference between words taught and those that are learned adds to the dispute.

Different authorities believe that direct instruction is either important or unimportant.  Graves, (2001) who sites numerous experts, declared its importance "in school and an approach in which intensive instruction in a relatively small set of words is particularly appropriate.  He also voiced the opposing point of view that, direct instruction is "unimportant because of the large numbers of words to teach, making it futile.  He further declared a middle view that it is important but not the most important instructional method, that a combination of strategies is necessary" (p. 203).  Such a debate raised the questions of why.  Manzo, et al. (2006) found that vocabulary made it a number of years running to the "what's not" list in *Reading Today's* annual survey of what's hot and what's not in education.  They also commented that fewer graduate students are choosing vocabulary as a topic for academic papers.  They believe this indicates vocabularies low priority in U.S. schools (2006).  Graves (2001) conducted classroom observations, surveys of reading materials, and gathered expert opinions and his findings coincided with Manzo et al.  He concluded, "vocabulary is neither taught widely nor well" (p. 203).  Biemiller (2003) declared that even though vocabulary is recognized as a "strong determinant of reading success, not much research has been conducted on the effectiveness of elementary programs" (p. 323).  The debate is not answerable in the context of this paper.  For its purposes, the debate is acknowledged and further discussion of direct instruction continues.

Stahl and Fairbanks (1986) maintained, "any instruction appeared better than no

instruction. They also found that methods involving several different techniques seemed more effective than a single technique" (p. 73). They assert that word knowledge must be at a depth where connections are formed, and accessible so students can make use of the words. Stahl (1985) defined "three broad levels of processing requirements for vocabulary instruction and learning:

- Associative processing or having a child learn an association between a word and its synonym, or definition, or with a particular context.

- Comprehension processing or having the child apply an association.

- Generative processing or having the student generate a novel context or definition of the word" (pp. 19-20).

Each of these levels represent a successively deeper level of processing, and Stahl (1985) ascertained that the deeper the processing, the deeper the understanding of the word. Beck and McKeown (2007) state that their approach of Rich Instruction, which includes explaining word meanings, providing many examples, and requiring students to process deeply, leads to the desired word knowledge. Armbruster and Nagy (1992) stated that, "what is important is not the particular method, but the emphasis on relationships among concepts" (p. 551). Beck, Perfetti, and McKeown (1982) declared, "Words are just labels for concepts" (p. 508). They point out that if a student's understanding of a concept is rich enough than access to it in various contexts occurs more easily. This access makes word knowledge applicable and usable. If a child can apply words in different contexts and settings, then they truly understand the word.

Biemiller (2003) reflected that, "vocabulary instruction is a never-ending effort" (p. 330). In this effort, one can look to authorities for guidelines for effective instruction. McKeown and Beck (1988) felt that the "most effective instruction involves several techniques rather than a

single approach" (p. 42). Stahl and Kapinus (2001) asserted that successful vocabulary instruction "helps students understand what they must do and know in order to learn new words on their own" (p. 13). According to Harmon et al., (2005) "explicit instruction positively impacts vocabulary acquisition" (p. 266). They went on to note that "several features characterize this instruction: integration, repetition, and meaningful use" (p. 266). A further detailed description of these features assist in understanding each:

> *Instruction* must relate newly acquired words to other words and concepts. Tied to schema theory, this feature suggests the importance of the interrelationship among words and the importance of connecting new learning with existing knowledge. The second feature, *repetition*, refers to the need for students to not only acquire new words but to also have sufficient practice in using the meanings so that the meaning can be automatically accessed during reading. The third feature, *meaningful use*, is tied to the level of word processing needed to perform a task, or rather, the level at which students are actively engaged in using the word meanings. The higher the level of processing, the more likely students will learn and retain word meanings (p. 266).

Beck and McKeown (2007) also commented on direct instruction, saying, "that more instruction brings better results. This finding is not surprising, but it is important because it demonstrates that word learning does not occur easily" (p. 262). Fisher and Blachowicz (2005) agreed saying, "no one instructional model has proved better than any other, but most interventions have proven effective in some settings" (p. 282). Effective instruction has several components, as previously noted. Stahl and Kapinus (2001) asserted, "students are more interested and motivated when instruction is an integral part of classroom activities. Research advised that the following four principles could make instruction both effective and interesting:

- Good vocabulary instruction helps children gain ownership of words, instead of just learning them well enough to pass a test.

- Good vocabulary instruction provides multiple exposures through rich and varied

activities to meaningful information about the word.

- Good vocabulary instruction includes both definitional and contextual information about each word's meaning

- Good vocabulary instruction involves children more actively in word meanings (p. 14).

Research suggested that both wide reading and direct instruction affect vocabulary development. Through the research for this review, other approaches revealed themselves to assist in word learning: discourse related to words, multiple exposures to words, and development of word consciousness.

*Discussion's effect on vocabulary learning.* According to Beck and McKeown (2001) "talk surrounding text or getting children to think about what was going on in the story were keys to literacy growth" (p. 11). They went on to state that "talk that was analytic in nature, requiring children to reflect on story content or language was beneficial" (p. 11). Discussion related to words and word meanings is shown to have a dramatic affect on word learning. Stahl and Clark (1987) found that teachers should strive to create an atmosphere where all children feel that they have an equal change of being called on. If students do not anticipate a turn in discussion, they may make fewer covert responses or pay less attention to the discussion, in turn leading to less learning. Teachers should be careful to set up a pattern where all students anticipate that they will participate, and thus generate covert answers or at least attend to the discussion. Because, however, it is this anticipation and not the actual participation that leads to learning, the teachers should not feel compelled to call on every student.

In further work related to discussion, Stahl and Kapinus (2001) shared more important aspects and components of discussion in vocabulary development. "Discussion adds an important dimension to vocabulary instruction. In order to participate in discussion, children

must practice or prepare a response themselves while waiting to be called upon" (p. 20).

Involvement deepens, thus adding to learning, when teachers ask students to share with a peer

before whole class dialogue occurs. Discussion seems to improve vocabulary learning in

general.

Stahl and Kapinus (2001) noted that students benefit not only from active processing as they

participate but also from the sharing by other children.

*Multiple exposures.* "Knowledge of a word is not an all-or-nothing proposition"

(Blachowicz and Lee, 1991, p. 190). A learner does not move from not knowing a word at all to

having full command of the word. Before advancing further, it is important to agree on what it

means to know a word. Dale and O'Rouke (1986) share four "levels" of word knowledge:

- I never say it before.

- I have heard of it, but I do not know what it means.

- I recognize it in context—it has something to do with…

- I know it.

Individuals move through these stages or phases as their understanding of a word deepens.

Several authorities have similar levels in their work. When a person "knows" a word, she knows

more than the definition; she knows how the word functions in many different contexts. Word

meanings change and shift as the word changes context. Anderson and Nagy (1993) stated that

knowing a word is not the same as knowing a dictionary definition. Dictionaries are reference

works that are written with conciseness in mind; after all, there are thousands of words that need

to be included in any one dictionary. These definitions often confuse children, and "there is a

great deal of research showing that children cannot use conventional definitions to learn words"

(Stahl, 1999, p. 17). Children need to develop the ability to understand the core meaning of a word, and how it changes in various settings, this is accomplished through contextual work.

Anderson and Nagy (1993) asserted that "how easily a new word is learned from context depends on the informativeness of the context and the number of times the word is encountered. The likelihood of learn(ing) a word increases as it is seen more often" (p. 8). In their 1986 study, Stahl and Fairbanks stated that multiple exposures to a word has a greater effect on word learning than a single exposure with a definition. It is helpful to understand the process of word learning as words are encountered.

The first exposure, "information about its orthography is connected to information from the context" (Stahl, 2003, p. 2). From this contact, a person has a general sense of the context, or a specific connection to the context it was discovered in. The meaning at this point is not generalizable to other settings or contexts. "As a person encounters the word again and again, word meaning grows at a relatively constant rate, dependent on the features of the context" (Stahl, 2003, p. 2). Vocabulary knowledge seems to grow gradually from first exposure to a full, usable knowledge of the word. This type of knowledge "involves an understanding of the core meaning of a word and how it changes in different contexts" (Stahl, 2003, p. 3). "Knowing" a word is not just the ability to recite the dictionary definition.

*Word consciousness.* "Word consciousness refers to an awareness and interest in words and their meaning" (Blachowicz et al., 2005, p. 24). For Lehr et al., (2004) "word consciousness involves knowing that some words and phrases can simultaneously feel good on the tongue and sound good to the ear. Students who are word conscious enjoy words and are eager to learn new words" (p. 31). As teachers give words "center stage and turn the spotlight on them" children will use words more and be more interested in them (Graves and Watts, 1997).

Words are all around us. "We live in a sea of words" (Stahl, 2003a, p. 1). Teachers can build awareness of words in a variety of ways:

- A word wall—a place where students post new words they encounter. It can be a place where discussion begins and is highly motivational (Blachowicz and Fisher, 2004).

- Develop a community of language—"School is not merely preparation for life, it is part of life" (Manzo et al., 2006, p. 617). A community of language begins by everyone being involved with words, and continues, as words become part of everything in the school.

- Play with words—when learning is fun, students become interested in words and see them as objects to investigate and explore instead of drudgery (Blachowicz and Fisher, 2004).

- Seize teachable moments—teacher enthusiasm goes a long way to developing students interest in words (Anderson and Nagy, 1993).

Words make up the books students read. The connection between vocabulary and reading comprehension is a much-researched component of literacy education.

*Vocabulary and Reading Comprehension*

A complete coverage of the topic of vocabulary and reading comprehension is beyond the scope of this review. An overview, including major authorities, is included here. Blachowicz (1999) contended that, "attempts to demonstrate a simple causal relationship between knowledge of specific words and the comprehension of texts containing those words have not been uniformly successful" (p. 213). Stahl (1986) stated that "the evidence on whether teaching vocabulary directly improves comprehension is mixed" (p. 662). Stahl and Fairbanks' (1986) review indicated that vocabulary instruction generally does improve reading comprehension, but

not all methods of vocabulary instruction have a positive effect. The relationship between vocabulary and comprehension is not fully understood, according to Joshi (2005). Beck et al. (1982) expressed that the connection between word meaning access and understanding text is poorly established. These authors pointed out there is a distinction "between knowing a word meaning well enough to pass a multiple choice vocabulary test and knowing it well enough to use it in text comprehension" (p. 507).

There is a relationship between levels of word meanings and comprehension. The more words a reader knows in the text the greater the understanding (Beck et al., 1982). The faster a child can recall a word, the better the comprehension. Harmon et al. (2005) pointed out that "to understand each piece, students need to have well-developed word knowledge to best handle the demands of each reading" (p. 262).

Lehr et al. (2004) stated that "one of the most persistent findings in reading research is the extent of students' vocabulary knowledge relates strongly to their reading comprehension and overall success" (p. 6). This group of authors further noted how "this relationship seems logical; to get meaning from what they read, students need both a great many words in their vocabularies and the ability to use various strategies to establish the meanings of new words when they encounter them" (p. 6).

Words are what reading is all about, and words are also what vocabulary is all about. While the research is extensive, the answers are elusive. Stahl (2003b) noted that, "vocabulary knowledge is strongly correlated to reading comprehension, so closely correlated that some researchers use the two almost synonymously. Correlations between measures of vocabulary and reading comprehension routinely are in the 0.90s" (p. 241). Stahl (2003b) went on to point out how almost regardless of the measures or the population, the correlations were similar. To Stahl

(2003b), "knowledge of word meanings affects every aspect of language knowledge" (p. 241).

Further, Stahl (2003b) listed various aspects of words that make comprehension more difficult:

- Word difficulty—the number of syllables in the average words or the number of difficult words contribute to the rise or fall of comprehension

- Derivations of words—the way base words have added prefixes and suffixes affect children's comprehension. Children who know the meanings of affixes do much better than those who do not. For children who do not know an affix common words can present a big problem.

- Idioms and slang—exposure to a broad spectrum of language can assist with this aspect of the English language. They can present problems for all learners.

Stahl (2003b) recommends students be exposed and instructed in both dictionary knowledge and contextual knowledge of words. The clarity of why vocabulary might be related to reading comprehension is fuzzy. Stahl & Fairbanks (1986) found that while word knowledge may by themselves improve comprehension, that vocabulary knowledge must be at a reasonable depth. Even if difficult words are replaced with easier ones, comprehension may or may not improve (Stahl, 2003b). Stahl's (2003b) last point leaves a lasting impression, "as children learn more words, they learn to think about the world in more sophisticated ways. It is this sophistication, rather than a particular group of words that leads to understanding" (p. 246).

## Conclusion and Recommendations

*Insights*

The power of words is even greater than I could imagine. This review of just some of the literature related to vocabulary development opened up new doors of understanding about the influence words have in our world. The first consideration is to address the questions posed:

- Why are vocabulary instruction and vocabulary learning so important and yet so difficult? Words are powerful; they help us make sense of the word. The multiple articles and the vocabulary authorities made this point loud and clear. Without words our society and the societies of the world would be different—one I am not sure we would recognize. The need to communicate is paramount and words help us do that.

  Vocabulary instruction is difficult for many reasons: the background learners come with is varied, and sometimes lacking; words have nuances of meanings, and the shear number of words makes the task difficult.

- What is the size of the vocabulary task? The numbers varied from authority to authority, but I did find a range of the numbers of words to be learned. Nagy and Anderson's 88,700 word families is the most widely accepted number. From this and other pieces of the puzzle, it is determined that approximately 3,000 words are learned every year while attending school. The average high school senior knows approximately 50,000 words.

- How does a student's background, SES, or primary language impact, vocabulary acquisition? Connection between a new word and a child's background is what causes vocabulary learning occur. The more difficult the word is or if the background is shallow, the more difficult vocabulary acquisition will be.

- What direct or incidental methods can teachers utilize to teach vocabulary? The scope of this paper did not provide space for an extensive review of specific teaching strategies. An overview of the broad considerations was developed, and it was found that vocabulary instruction needs to include: ways for children to gain ownership of their learning about words, multiple exposures to words in rich, varied, and meaningful ways, children need to

be actively involved in word learning, and children need to read widely, providing them with incidental exposure to more words.

Words and word learning is so important, it is hard to stress their importance. They affect people not just in school but also beyond.

*Future Projects/Research*

I plan to conduct an action research project during the 2007-2008 school year on vocabulary instruction. While I do not have the complete plan developed, the research will revolve on creating a classroom where words are center stage. I want to help students develop a deeper level of word consciousness, pushing them to realize the strength and power of words. Further, I want them to see how much fun words can be. Data collection will include, word wall compilations, discourse notes, student use of words in writing, and some assessment.

Further reading and research will center on specific strategies to apply in the classroom to assist with vocabulary instruction. I will also look deeper at how to choose words to study. Beck, McKeown and Kucan's (2002) work with the tier words intrigues me. I want to read more about this leveling of words and apply some of the strategies to my classroom work.

My long-term aspiration is to continue my education working towards my doctorate. I hope to continue work in the field of vocabulary, writing, and reading comprehension. It is very exciting to think about future learning that is a head.

*Teacher Practices*

While the number of strategies and methods are vast, from wide reading to semantic mapping, authorities recommended starting early and putting vocabulary instruction to work in the classroom. Effective vocabulary instruction includes a number of critical components. An

environment that is word-rich, immersing students in language helps to build "word

consciousness". This type of an environment provides both incidental and intentional learning of

words. Additionally, the environment should abound with books, language, words, and all types

of print (Blachowicz and Fisher, 2007).

Beyond the environment, effective vocabulary teachers need to assist students to

"develop as independent word learners" (Blachowicz and Fisher, 2007, p. 179). Providing ample

chances to read is the first step in this important venture. Students also need opportunities to:

discuss words and their meanings, play with words, interact with words in a variety of ways, and

have multiple exposures to words.

The concepts and content are what catches a student's interest. The science and social

studies content is rich with new concepts to learn. Beck, Perfetti and McKeown (1982) stated

that words are labels for these concepts. Direct instruction regarding the content and the words

related to it is vitally important. In order for students to understand the content, they need the

words; in order to understand the words they must grasp the content. Effective vocabulary

teachers see this relationship and word to build the connections necessary.

The complicated nature of word learning coincides with the complicated world we live in.

Sense of it all is accomplished by words. Expression of thoughts, feelings, language, emotions,

and learning is done through words. The more an individual understands words the more they

can make sense of the world around them. This literature review helped me to put this into a

deeper context. Vocabulary is not just about words as I once thought; it is about understanding

the world we live in. Words are the way we move from being separate entities to being a family,

a community, a nation, and a world. It is only through words can we continue to be the complex,

multi-dimensional beings we are. This literature review has provided just a starting point for understanding the complex nature of vocabulary acquisition and vocabulary instruction. From here, I will continue to learn about words and their multilayered effects on students. I cannot help but be changed by the writing of this review. Words are more than shapes on a page; they are the way we communicate.

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