EARLY VOCABULARY DEVELOPMENT AND
AND READING COMPREHENSION

by

Laura Logan

An Abstract
of a research paper submitted in partial fulfillment
of the requirements for the degree of
Master of Science in Library science and Information Services
in the Department of Educational Leadership and Human Development
University of Central Missouri

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ABSTRACT

by

Laura Logan

Vocabulary is a component in reading comprehension. Without a strong breadth and depth of vocabulary knowledge, students may struggle with reading comprehension. Early and direct teaching of vocabulary can narrow the gap between those who have well-established vocabularies and those without. This review of literature introduces the connection between vocabulary and reading comprehension and the need to address vocabulary in the early grades. Risk factors for low vocabulary development are also explored. The risk factors include maternal education, the home literacy environment, and socio-economic status. Strategies and methods for teaching vocabulary within the library media center are presented including research on implicit and explicit teaching. Librarians can implement strategies within the library media center that coordinate with regular classroom teaching and provide additional opportunities for students to work with and learn new words. Vocabulary has been identified as one component that can be addressed to narrow the achievement gap.
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CHAPTER 1: INTRODUCTION

“Reading comprehension is critically important to development of children’s reading ability and therefore their ability to obtain an education” (National Institute of Child Health and Human Development, 2000, p. 4-1). Students need vocabulary to comprehend what they are reading. Expanding children’s vocabulary allows them to understand more of what is spoken or read to them. A child’s vocabulary includes the words they can effectively use to communicate and those they understand from verbal communication as well as written words. To know a word, a child must be able to provide a definition, examples and non-examples of the word, and understand its relationship to other words. Students need a strong depth of vocabulary and a breadth of words. Hirsch (2003) suggests that breadth of vocabulary increases comprehension and depth of vocabulary increases fluency, broadens vocabulary, and allows for deeper comprehension. Hirsch (2003) suggested that students need to know 90-95% of the words they read before they can read for comprehension.

Biemeiller and Andrew (2001) concluded that students who can decode text, but do not comprehend, lack the vocabulary skills necessary to understand what is written. Vocabulary has been identified as one component of reading that can be taught to narrow the achievement gap. Vocabulary and reading comprehension have a reciprocal relationship (Baumann and Kame’enui, 2004, p. 61). The more vocabulary students have, the more they comprehend; the more they comprehend, the more they read; and the more they read, the more words they learn (Kieffer and Lesaux, 2007).
Current research suggests that low vocabulary development is a risk factor for poor academic achievement. According to Hammer, Farkas, Maczuga (2010), three factors impact low vocabulary development: family income, maternal education; and home literacy environment. Poverty is the number one risk factor for low vocabulary development. The gap that is created by potential risk factors continues to grow as students progress through school. Baumann and Kame’enui (2004) argue that “once children fall behind while in primary school, it becomes less likely that they can later catch up” (p. 29). By preschool, students who come from lower socio-economic homes have heard 13 million words; their counterparts in high socio-economic homes have heard over 45 million words (Hart and Risley, 2003). Students in low socio-economic homes are hearing fewer words, fewer types of words, and incomplete sentence structure and syntax.

Researchers have examined increasing oral language through read-alouds, explicit vocabulary instruction, small group interventions, and repeated exposures to words within rich and focused instruction. Building vocabulary requires students to read independently, listen to stories read aloud, participate in content discussions, learn word strategies, and participate in active learning in repeated exposures to the same text or word. Vocabulary instruction is broken into two groups: implicit and explicit. Implicit vocabulary learning refers to words that are learned through exposure to reading and listening. Explicit vocabulary learning refers to words that are learned by a teacher or librarian presenting a specific definition for the target word.
Researchers have labeled read-alouds as a good opportunity to teach new vocabulary. Books used for read-alouds are usually above a child’s own independent reading ability. Reading a variety of texts in read-alouds can present students with an array of new words and complex sentence structure. Armbruster, Lehr, and Osborn (2001) from the Center for the Improvement of Early Reading Awareness suggests that active and repeated exposures to targeted vocabulary words increases student learning of new vocabulary. Students who receive rich and focused explicit instruction should be able to provide a student friendly definition and examples and non-examples of the targeted word.

By increasing vocabulary in early childhood programs, students will be able to understand more of what they independently read as well as what is read to them. Students who have a large vocabulary have a better chance at higher levels of reading comprehension. The National Reading Panel’s report (National Institute of Child Health and Human Development, 2000) stated that reading comprehension is critical for school success.

Statement of the Problem

Children enter school with varying vocabulary knowledge. Children who enter school with low vocabulary may struggle with reading comprehension. Vocabulary has been identified as the missing piece of the puzzle when a student can decode the words, but does not have an acceptable reading comprehension level. Several risk factors have been identified as potential threats for low vocabulary development; these include maternal education, home literacy environment, and socio-economic level. Poverty has been noted by Hammer et al. (2010) and Marulis and Neuman (2010) as the number one risk factor.
Vocabulary has been identified as one component of reading that can be explicitly taught to narrow the achievement gap. Researchers note that repeated exposure across multiple contexts and active learning opportunities offer the best success for learning new vocabulary. Increasing vocabulary in early childhood allows students to understand more of what they read throughout school and will lead to greater reading comprehension. The library becomes a location to increase vocabulary through regular story time and read-alouds with early childhood students.

Purpose of the Study

The purpose of this study was to review the literature available regarding vocabulary development and its relationship with reading comprehension. Vocabulary abilities vary greatly within the early childhood population and appear to widen as students progress through school. Vocabulary has been identified as one way to narrow the achievement gap between students who have large vocabularies and those who do not. Expanding a student’s vocabulary allows them to understand more of what they see and hear. Increasing early childhood vocabulary positively affects reading comprehension. Attention was paid to factors that influence low vocabulary development and how the librarian can implement early childhood vocabulary learning strategies within the context of scheduled class time in the library media center as well as how the librarian can support the regular classroom teacher.

Questions Guiding the Study

The following questions guided the study:
1. How is vocabulary connected to reading comprehension?

2. What social issues can lead to low vocabulary development?

3. How can teachers and librarians work together to increase early childhood vocabulary?

Limitations

The limitations of this study include limited time to conduct research for the review of literature. Additional limitations include the limited number of studies involving early childhood students. The data collected included texts and articles from available databases dealing with vocabulary development, low vocabulary, risk factors influencing low vocabulary development, and methods and strategies for teaching vocabulary to early childhood students. The results of this study serve as an analysis of the literature and the conclusions have been drawn by the author.

Definitions of Terms

Key terms of this study have been defined to clarify their meaning for the reader. Terms have been defined by the researcher and are all related to the development of vocabulary.

Early childhood- The beginning years of school including: preschool, kindergarten, and first grade.

Explicit vocabulary- Explicit or direct teaching of vocabulary occurs when students are presented with specific definitions for words encountered in the text. Explicit teaching
includes words that are taught prior to reading, providing definitions during reading and discussions, as well as teaching strategies for learning word meaning.

Home literacy environment (HLE)- The type and amount of exposure a child has to literature, stories, and songs within the home environment.

Implicit vocabulary- Implicit learning of vocabulary is defined as words learned through hearing and doing activities.

Reading comprehension- The amount a child understands after reading or listening to a text.

Socio-economic status (SES)- The family’s economic position based on income. Status is broken into high, middle, and low.

Vocabulary- The words a child can effectively use to communicate and words they understand in written or verbal form.

**Design of the Study**

The research study collected previously published literature on the topic of early childhood vocabulary development to increase reading comprehension. Existing literature related to the topic was reviewed for the purpose of the study. At no time was there an effort to create new research or to examine existing data, privately or publicly held that would necessitate any type of permission.

Articles were retrieved from the following databases *Academic Search Complete*, *Education Research Complete, Psycarticles, PsychINFO, ERIC, and Library Literature Information*
Science Full Text. Search terms included: vocabulary development, early childhood and vocabulary, at-risk students and vocabulary, and vocabulary and library. I was also able to search the print holdings collection for several books on vocabulary development that were referenced in articles. I also searched for researcher names referenced in journal articles and books.

This study includes three chapters related to early childhood vocabulary development and its relationship with reading comprehension, risk factors for low vocabulary skills, strategies used to increase vocabulary development, and the role of the library and librarian in vocabulary development. Chapter two is a review of existing literature. Chapter three is a discussion of the questions posed in chapter one and conclusions and recommendations.
CHAPTER 2:
REVIEW OF THE LITERATURE

The National Institute of Child Health and Human Development's (NICHD) Report of the National Reading Panel (National Institute of Child Health and Human Development, 2000), states "Comprehension is critically important to development of children’s reading skills and therefore their ability to obtain an education" (p. 4-1). There is a direct connection between vocabulary knowledge and the level of reading comprehension of students because vocabulary allows readers to understand the words they are reading. Expanding students’ vocabulary allows them to understand more of what they see and hear. This paper attempts to show the importance of increased early childhood vocabulary instruction to build reading comprehension, connect the role of the librarian to vocabulary development, and shows the importance of vocabulary instruction within the library media center. The first part of the paper defines vocabulary and explains how it relates to reading comprehension, including the correlation of low vocabulary and later reading difficulty. The second part of the paper examines risk factors for low vocabulary development. The third section discusses strategies and techniques for teaching vocabulary and gives examples of positive impacts in reading comprehension from vocabulary instruction in the library.

Vocabulary and Reading Comprehension Defined

Vocabulary is crucial to understanding text and has been labeled as one of the four components necessary for reading success (Snow, Porche, Tabor, & Harris, 2007). Phonics, phonemic awareness and fluency are also essential components in learning to read. Successful
reading is dependent on not only depth and breadth of vocabulary knowledge, but also on mastery of vocabulary in oral language. The following section examines this relationship by discussing what vocabulary is and how it relates to reading comprehension.

The term "vocabulary" refers to the words that are known by students and can be effectively used to communicate. Knowing a word involves more than its literal definition, it includes its relationship to other words, connotations in different contexts, and its power of transformation into various other forms through morphemes such as prefixes, suffixes, and root words (Kieffer & Lesaux, 2007). How words are acquired is referred to as vocabulary acquisition. Winters (2009) refers to the acquisition of vocabulary as a complex process involving the development of rich relationships among new and previously known words. Armbruster for Improvement of Early Reading Awareness (2001) notes that vocabulary knowledge is a continuum and words fall into a range of unknown, acquainted, and established. Unknown words are those a student has not seen or heard before. Acquainted words are those with which a student has a vague idea of the meaning. Established words can easily be used in reading and writing because the student is familiar with the meaning. A student's knowledge of established words leads to reading comprehension. The NICHD (National Institute of Child Health and Human Development, 2000) states reading vocabulary is "crucial to the comprehension processes of a skilled reader" (p. 4-3).

Vocabulary is an essential component in understanding text; students need to know many words and understand how they relate to one another in the context of a sentence. Kieffer and Lesaux (2007) suggest that students need a strong depth of vocabulary knowledge
and a breadth of words. Hirsch (2003) expands this by stating that the breadth of vocabulary increases comprehension, and depth of vocabulary knowledge increases fluency, broadens vocabulary, and allows for deeper comprehension. Students who are effective word learners recognize an unknown word then look at its parts, break it down, hypothesize its meaning, and check their background knowledge for the context of the word (Anderson & Nagy, 1993; Kieffer & Lesaux, 2007).

The National Reading Panel (National Institute of Child Health and Human Development, 2000) stated that “reading comprehension is a cognitive process that integrates complex skills and cannot be understood without examining the critical role of vocabulary learning and instruction” (p. 4-1). In their research, Biemiller and Andrew (2001) concluded that students who have mastered phonics and can read but do not have comprehension, lack vocabulary skills. They cannot understand what they are reading, which shows that vocabulary is the "missing link" in reading instruction. They also suggest that vocabulary is one problem that can be addressed to narrow the achievement gap. Some researchers argue that vocabulary and reading comprehension have a reciprocal relationship (Baumann & Kame'enui, 2004, p. 61; Hiebert & Kamil, 2005, p. 40). The more vocabulary students have, the more they comprehend; the more they comprehend, the more they read; and the more they read, the more words they learn (Kieffer & Lesaux, 2007).

Hirsch (2003) found that students need to have a minimum level of vocabulary knowledge for comprehension to take place. Students need to understand 90-95% of the words they read before they can read for comprehension. Pullen, Tuckwiller, Konold, Maynard,
and Coyne (2010) added that students need fluent word recognition skills and an average to above average vocabulary to facilitate comprehension. Coyne, McCoach, and Kapp (2007) indicate that there is a relationship between vocabulary knowledge and reading level that can indicate learning difficulties. They established that those who fall behind in vocabulary development are at greater risk for reading failure and for potentially developing a language or reading disability. Pullen, et al. (2010) describes vocabulary knowledge as a robust predictor of later reading achievement.

In early grades, students depend on read-alouds for reading experience. When students begin reading, they focus on decoding the words. As they become more efficient decoders, students can read for comprehension. When students are independent readers, they rely less on read-alouds and more on their own skills. As students progress through school, their required reading becomes more content and academic related. Much of what they are reading might be beyond their own knowledge, and therefore they must use skills and strategies they learn to recognize unknown words and make sense of what they are reading. The NICHD (National Institute of Child Health and Human Development, 2000) describes vocabulary acquisition as the middle ground in learning how to read. Snow et al.’s (2007) data show a steady relationship between vocabulary scores in kindergarten and vocabulary knowledge and reading comprehension in tenth grade (p. 21). The students in their longitudinal study had an average standard score of .59 on the Peabody Picture Vocabulary Test in kindergarten and an average standard score of .60 on the California Achievement Test in tenth grade (Snow et al., 2007, p.20).


Risk Factors for Low Vocabulary Development

Baumann and Kame'enui (2004) state, "Children enter kindergarten with significant differences in critical early literacy skills, and these differences place many children at serious risk for failing to learn how to read and understand text" (p. 42). This section examines specific risk factors for potential, low vocabulary development. Specific risk factors that are examined include: poverty as measure by social economic status (SES), maternal education, and home literacy environment (HLE).

Current research indicates that low vocabulary development is a risk factor for poor academic achievement. Poverty is the number one indicator for low vocabulary knowledge (Marulis and Neuman, 2010). Low family income affects early language development.

Molfese, Modglin, and Molfese (2003) looked at the role the environment played on intelligence and reading abilities. One factor influencing the environment is socio-economic status (SES). In their study, 113 children participated in testing at age three and again at age 10. Molfese et al. (2003) looked at the correlations of SES and scores on the Home Observation for Measurement of the Environment (HOME) which is a test designed to measure the quality and quantity of stimulation and support available to a child in the home environment. They found a strong correlation between the scores on the HOME test, SES, and reading skills as tested at age ten using the Wide Range Achievement Test-Revised (WRAT). They noted that scores at age three on the HOME were a predictive measure for scores at age ten. They concluded that a child's environment plays a role in the development of reading abilities.
Prior to entering school, the main source of education is a child's home. Many students who come from low socio-economic families begin preschool with low vocabulary skills (Baumann & Kame'enui, 2004, p. 60; Beck, McKeown, & Kucan, 2002, p. 1; Hammer, Farkas, & Maczuga, 2010). One set of researchers set out to quantify the word difference based on socio-economic status. Hart and Risley (2003) recorded the interactions between parent and child in their home prior to entering school when the vocabulary gap had already been established.

They spent two and half years observing 42 families one hour each month. They began observing when children were between seven and nine months old and continued until they were three years old. These families consisted of: thirteen from upper socio-economic status (SES), ten middle SES, thirteen low SES, and six welfare families. As students' language abilities matured, researchers were able to closely relate the words the children were using to those documented from the parents' vocabulary. Children from professional families heard 2,153 words per hour, working class families heard 1,251, and welfare families heard 616 words per hour. Hart and Risley (2003) extrapolated these numbers to yearly numbers. Children in a professional family will hear 11.2 million words per year, 6.5 million for working families, and 3.2 million for a child in a welfare family. By the time children enter preschool at age four, the difference between high SES and low SES children's language experience is 45 million to 13 million words.

Not only are students in poverty not hearing as many words, the kind of words they hear is stark in comparison to their high SES peers. Hart and Risley (2003) also had their study participants take a Peabody Picture Vocabulary Test-Revised (PPVT-R) and determined that
vocabulary use at age three was a predictive measure of vocabulary and language skills at age nine and ten on the Comprehensive Test of Basic Skills (CTBS/U). Hirsch (2003) found that students in first grade with high vocabulary skills know twice as many words as low achieving students. This relationship continues to grow throughout school years and by 12th grade, high achieving students know four times as many words.

Socio-economic status changes the type of communication used. Payne (2005) has labeled types of language registers used by different socio-economic groups. Formal register which is consists of 1200-1600 words uses standard syntax, complete sentences, and specific word choice. This register is used in school and work. Casual register is characterized by less specific word choice, 400-800 word vocabulary, non-verbal cues, and incomplete sentence structure or syntax. Low socio-economic or poverty students only hear conversations in casual register and lack the skills needed to communicate in a formal register (p. 26).

Vocabulary allows students to define a problem and seek an accurate solution (Payne, 2005, p. 95). Students with a large vocabulary will continue to learn more as they progress through school because they will understand more of what they are reading. Hart and Risley (2003) were able to not only show the difference in words heard and used within socio-economic status, but were also able to find that students continued to learn fewer words in school than their higher socio economic peers. Chall and Jacobs (2003) have reported on the fourth grade slump; students were previously able to perform on reading achievement tests, but around fourth grade students from low SES were declining in their reading abilities. The first skill to show a difference by socio economic status is word meaning. Students from low
SES in grades four through seven had difficulty defining abstract and academic words. In grade four, low SES students were one grade behind their higher SES peers. In grade seven, low SES students were more than two grade levels behind on grade level norms.

Abstract and technical words are not used in everyday speech, causing low SES student's comprehension of material to suffer. Beck and McKeown (2007) define tier two words as those that are high utility but unlikely to be in a child's regular vocabulary due to the refined, sophisticated or specific label. For instance the word "notice" is a more refined label for "seeing something" or "commotion" more specific for "noisy running". These are the kind of words that will significantly help with reading comprehension, but most students from low SES have little background with these words.

In a study of Head Start children, Hammer et al. (2010) looked at the Family and Child Experiences Survey (FACES) database to determine family characteristics and their effect on language and literacy. The study population included 3,500 children from 60 Head Start programs. Data was collected in the fall and spring of their first year in Head Start and spring of their kindergarten year. Their results showed that children with more educated mothers had higher receptive vocabularies. Hammer et al. (2010) and Britto (2001) also showed a correlation between maternal education and home literacy opportunities. Children with more educated mothers were given more literacy activities than those with less educated mothers. The maternal education discrepancy was noted on multiple tests administered by Hammer et al. which showed a correlation between maternal education and vocabulary scores. The more education, the higher the child scored.
An additional risk factor identified is the home literacy environment. Britto (2001) found that the type and style of interaction seemed to determine emergent literacy skills. The types of interactions between mother and child that promote literacy development include book reading, teaching during book reading or discussion during book reading, and puzzle solving activities. In the study of Head Start children (Hammer et al., 2010), home literacy activities were limited to four items: telling a child a story; reading to a child; teaching letters; and singing songs or playing music with a child. The more literacy interactions, the higher the child scored on exit assessments indicating a connection between the home environment and vocabulary. Children who were read to everyday showed larger gains in vocabulary and had broader expressive vocabularies. Hammer et al. (2010) also found that home literacy activities to be a great predictor of children's oral vocabulary knowledge, but not early letter-word identification abilities.

Similarly, Burgess, Hecht, and Lonigan (2002) looked at the home literacy environment (HLE) and its relationship with reading related development including oral language. Their study included 115 children aged four and five from seven different schools. All children were from middle class families. They used a test that required children to complete a sentence prompt that describes two pictures. They also used a test to determine receptive language skills where children point to a picture that corresponded to the sentence spoken. Burgess et al. (2002) determined that the home literacy environment is statistically significant to the development reading in the area of oral language.
Strategies and Methods for Teaching Vocabulary in the Library Media Center

Building a strong vocabulary program within the library media center provides early childhood students additional opportunities to work with words and further develop their vocabularies. This section examines several strategies for teaching vocabulary to young students. Researchers have examined increasing oral language through read-alouds and developing students' word consciousness. Explicit instruction of vocabulary words through strategies such as: extended instruction, small group interventions, and rich and focused instruction have all shown positive gains in student's knowledge and vocabulary skills. These can all be practiced in the library media center.

Building vocabulary is a multi-pronged approach that involves students reading independently, listening to stories read aloud, participating in content discussions, and learning word strategies during repeated exposures to the same text and specific words. There are many strategies that teachers and librarians can incorporate into their teaching that have all shown to have a positive impact on vocabulary knowledge. The National Institute of Child Health and Human Development (2000) reviewed research on how children learn to read in order to determine which methods of teaching reading are most effective. They looked at vocabulary as a piece of reading comprehension and determined that vocabulary is an important piece of the puzzle for reading instruction. They established two types of vocabulary instruction: implicit and explicit. Implicit or incidental learning is comprised of exposure to words and language through stories and activities. Explicit instruction provides students with definitions and meanings of words preselected by the teacher or librarian.
Implicit Vocabulary Instruction

Implicit learning of vocabulary is defined as words learned through hearing and doing activities. Implicit learning can come through storybook reading or listening to others read, songs, and language within dialogue (National Institute of Child Health and Human Development, 2000). Due to the volume of words that are learned, many researchers argue that vocabulary is primarily learned through incidental opportunities (Anderson & Nagy, 1993; Biemiller & Andrew, 2001; Hiebert & Kamil, 2005). As reported by the National Reading Panel, researchers found that implicit vocabulary instruction is most effective with children who have large vocabularies when they start school (National Institute of Child Health and Human Development, 2000). Those students who come to school with expanded vocabularies are able to learn more new vocabulary than their low vocabulary peers within implicit learning opportunities.

Baumann and Kame'enui (2004) present the concept of the "Matthew effect" and its relationship to vocabulary. The "Matthew effect" references a story where the "rich get richer and the poor get poorer" (p. 61). The same seems to hold true for vocabulary development. Those who are proficient readers know more words and are exposed to more words compared to their struggling counterparts. Stanovich (2008, p. 37) continues "the facilitation of reading comprehension by vocabulary knowledge illustrates a principle that has been strongly emphasized in much recent research on cognitive development: the importance of the current knowledge base in acquiring new information." Those students who have a large vocabulary
knowledge base prior to learning to read acquire new information more easily than those who do not have a solid knowledge base.

Very young children depend on stories read aloud for an oral language experience because they lack the skills for independent reading (Coyne et al., 2007). Students are encouraged to read and listen to a wide variety of books. Reading a variety of texts will present the student with a vast array of words allowing them to infer meanings from the content of the book. Beck and McKeown (2001) report that the best book for vocabulary development in a read-aloud is one that is beyond a child's independent reading level. These books provide students with complex sentence structure and more difficult vocabulary than they could understand on their own. Coyne et al. (2007) also report that storybook reading provides a more complex and rich vocabulary than in conversational exchanges. Armbruster et al. (2001) from the Center for the Improvement of Early Reading Awareness recommends having students discuss what the teacher or librarian is reading before, during, and after reading to maximize the vocabulary learning. Armbruster et al. (2001) from the Center for the Improvement of Early Reading Awareness (2001) also suggests providing active or repeated learning opportunities to accompany a read-aloud to help increase student learning. The NICHD (National Institute of Child Health and Human Development, 2000) reports that repetition in exposure across multiple class periods or contexts is important. Beck, McKeown, and Kucan (2002) add that children's listening and speaking competencies are greater than their independent reading abilities. Using read-alouds takes advantage of their receptive abilities to enhance their
vocabulary development (p. 48). The more students can use and hear unfamiliar words in various contexts, the more they increase their understanding.

Several researchers have shown that follow-up activities to reading increases students' vocabulary knowledge (Beck & McKeown, 2001; Coyne et al., 2007). One activity provided by Beck and McKeown (2001) is "text talk" where the goal is to enhance young children's language and comprehension through experiences of listening to and talking about the stories read to them. This strategy is particularly helpful for kindergarten and first grade students and can be used in the library media center. Open-ended questions are asked and follow-up questions to responses are also asked. This helps create a deep understanding of words that are challenging for students by allowing the librarian to make students connect and question their own understanding of language to personal experiences and allows for class discussions to facilitate learning. During the read-aloud, if the picture allows the student to determine the meaning by looking at the illustration instead of using the text language to determine the meaning, the teacher or librarian will show the picture after the text is read and students have determined the meaning. Beck and McKeown (2001) describe a good word to include in instruction as one that is unknown by students, is a concept they can identify with, and can be used in normal conversation. Students who participated in text talk learned 19% more words than their non-instructed peers.

**Explicit Vocabulary Instruction**
Explicit or direct teaching of vocabulary occurs when students are presented with specific definitions for words encountered in the text. Explicit teaching includes words that pre-taught as well as teaching strategies for learning word meaning. Strategies for teaching word meaning include teaching word roots and affixes such as prefixes and suffixes (NICHD, 2000). The benefit of direct teaching of vocabulary words is that the teacher or librarian can provide the exact definition needed for the context and control the number of times a student encounters the words (Hiebert & Kamil, 2005, p. 49). Words that are directly taught should be important to the meaning of the text and be words that a student will encounter often (NICHD, 2000). According to Bauman and Kame'enui (2004), ”The direct approach assumes that multiple exposures are necessary to adequately learn new terms” (p. 111). The chance of learning a new word is increased through direct instruction (Anderson & Nagy, 1993). An additional way to explicitly teach words is through extended instruction where rich information is presented about the word and an opportunity to use and think about the word is provided with instruction (Coyne et al., 2007).

The National Reading Panel suggests that dependence on a single instruction method will not result in optimal learning (National Institute of Child Health and Human Development, 2000). The best gains were made in instruction that extended beyond single doses, using authentic contexts to build meaning explicitly. Stahl and Fairbanks (1986) concluded that multiple repetitions of the same information and exposures to words in different contexts produced higher effect sizes over single exposures.
Effective explicit vocabulary programs allow students to participate in vast and varied reading, teach individual words explicitly, teach word learning strategies, and foster word consciousness (Baumann & Kame’enui, 2004; Kieffer & Lesaux, 2007; National Institute of Child Health and Human Development, 2000). Anderson and Nagy (1993) define a word conscious person as one who understands how the parts of the word contribute to its meaning. Word consciousness is generative, meaning the knowledge learned will transfer to other words to enhance overall learning (Bauman & Kame’enui, 2004, p. 201). Anderson and Nagy (1993) suggest that the average student only learns 2,000 to 3,000 words each year even though students will need to know 88,500 distinct words by the time they are finished with school. Teaching word learning strategies like root words, suffixes, and prefixes allows students to better understand many more of the words they will encounter that cannot be explicitly taught. Biemiller and Andrew (2001) suggest that students be taught 4,000 root words by second grade. Having a large vocabulary by grade two will allow students to understand more of what they read as they begin reading for comprehension. Teachers and librarians can increase the desire for students to be word conscious by providing opportunities for students to see interesting and complex words in the books that are shared.

In the early grades, students rely on read-alouds for vocabulary instruction because their auditory skills are greater than their decoding skills. Read-alouds are already used within the library media center and offer an opportunity to implement explicit vocabulary strategies. The National Reading Panel (National Institute of Child Health and Human Development, 2000) found that students who had repeated exposure to words made the best gains in achievement.
This supports the need for explicit vocabulary instruction. Several studies confirm the panel's suggestion. Beck and McKeown (2007) focused one study on low income students and increasing oral vocabulary through rich and focused instruction. They define rich, explicit instruction as defining word meaning in student-friendly language, providing examples, multiple contexts, and requiring students to process the word deeply. Students should be able to provide appropriate and inappropriate examples of words that are taught. They found that the more explicit instruction that was given to a word, the better chance a child would be able to provide the correct meaning of the word. Students in their study received rich instruction on six words and additional rich and focused instruction across multiple days on six more words. The results were statistically significant in that students scored a mean gain of 8.17 words from those that received more rich and focused instruction and a gain of 2.50 words from those that only received the rich instruction. Librarians can provide students with rich instruction of vocabulary words during read-alouds and story discussions.

Storybook reading is an essential part of early literacy programs in classrooms and in the library. Coyne, Simmons, Kame'enui, and Stoolmiller (2004) studied the effects of explicit vocabulary teaching through storybook reading in a small group setting with kindergarten students who were identified through the PPVT-R as potential at-risk readers. The goal of the storybook intervention was to intensify shared book reading activities with direct teaching of vocabulary to determine how to optimize early literacy interventions for at-risk children. Coyne et al. (2004) determined that all components of reading need sufficient teaching and learning time. Explicitly teaching vocabulary through the storybook intervention showed gains in
vocabulary and should be an important part of early literacy programs. They performed a secondary analysis between their control group and the storybook intervention group and determined that teaching vocabulary within the storybook intervention showed a moderate to large effect of explicitly taught vocabulary. The storybook intervention consisted of forty different picture books that were identified as either classic or recent award winners. Students who participated in the storybook intervention group were explicitly taught three words from each book. These words were selected because they were important to the meaning of the story but not likely to be known by the students (i.e. "rumpus" in *Where the Wild Things Are*). Teachers focused on reading and discussing each book on multiple days while providing students opportunities to retell the story during class discussions, providing illustrations as prompts, and encouraging students to use targeted vocabulary words during the discussions. Students participating in the storybook intervention met every day for thirty minutes.

All students were then given a researcher-developed vocabulary test. Students were given twenty words and instructed to expressively tell the meaning of those words. Ten of the words had been explicitly taught and ten words were randomly selected from texts that had been read but had not been taught. Students were asked to give a definition of the given word as well as asked a "what", "when", or "how" question about each word. Students who participated in the storybook intervention scored significantly higher on taught vocabulary words than the control group (Coyne et al., 2004).

Coyne et al. (2007) studied vocabulary instruction for young children to determine if extended instruction resulted in higher vocabulary gains. Extended instruction is described as
explicit teaching of words using both contextual and definitional information, multiple exposures in varied contexts, and deep processing that challenges students to learn more than a simple definition. Opportunities to work with targeted words are provided outside of story reading. Kindergarten students participating in this study listened to the same story three times. Six words were selected from the story that students were not likely to know. Direct instruction was given to three of the words, extended opportunities to work with these three words was also given. The extended opportunities included saying words out loud, listening for words during reading by raising a hand when hearing the word, rereading sentences containing the targeted word, and providing kid-friendly definitions, and rereading the sentence with kid-friendly definitions. After reading the story, students participated in deep processing activities that included thinking of other ways targeted words could be used, forming sentences using targeted words, and discussion of words with open-ended questions following student responses. Students scored significantly higher on both receptive, expressive, and context tests of the three, targeted vocabulary words.

One set of researchers examined the effectiveness of explicit small group vocabulary intervention as a supplement to whole class instruction with students who had a potential for low reading ability. Loftus, Coyne, McCoach, Zipoli, and Pullen (2010) had forty-three kindergarten students participate in this intervention. The twenty students scoring lowest on pretest instrument participated in additional small group instruction with an interventionist. All students participated in regular classroom instruction, with the intervention group receiving an additional thirty minutes four days a week working with two words from each story.
Intervention group students participated in extended activities with the targeted words that had been previously taught in the classroom. Each session included four components: a review of two target word meanings, repeat of classroom activity, and two new oral language activities such as looking at pictures of target vocabulary words and creating a sentence followed by group discussion of sentences. Elaboration and extension were encouraged during discussions through questioning by the interventionist. Extended activities included repeated target words, listening for the word within the story, and being given a student-friendly word to substitute in the sentence. Students also participated in post reading activities. These included displaying an image of the word and definition, examples of the word usage in various contexts, creating sentences from a picture using targeted vocabulary word, and interactive oral language activities. Interactive activities included identifying examples and non-examples of the target words.

All forty-three kindergarten students were then given four researcher-developed measures to capture word knowledge gained. Loftus et al. (2010) were able to show that at-risk students, who participated in the small group vocabulary intervention scored better on targeted, explicitly taught words. When comparing the scores of words that received additional small group intervention time to those words that only received whole group classroom instruction, the at-risk student group students scored significantly higher on the posttests. Loftus et al. (2010) determined that at-risk students benefited from additional small group exposure to targeted vocabulary words. Libraries offer an additional place to provide post
reading activities and opportunities for students to practice using new vocabulary in oral language activities.

Fien et al. (2011) studied first grade students using read-alouds and small group instruction. Their findings showed an increase in vocabulary comprehension. The small group sessions included discussion of content, saying and repeating targeted vocabulary words, saying and practicing definitions, and discussion of examples and non-examples of the word. Results indicate that students who received this additional vocabulary instruction could be expected to move up 25 percentage points on tests of vocabulary knowledge.

Several meta-analyses also came to the same conclusion that students who receive additional, explicit vocabulary instruction will make better gains. Swanson et al. (2011) determined, after examining 18 studies, that targeting young children with read-aloud instruction resulted in gains in words that are taught through intervention, but less gain in uninstructed words. Marulis and Neuman (2010) also looked at vocabulary intervention in young children and determined that vocabulary instruction has a large effect on word learning for preschool and kindergarten students.

**Conclusion**

Vocabulary instruction provided to any student will positively affect vocabulary test scores and later reading comprehension. Researchers found that explicit instruction results in higher post test vocabulary scores, however there is less consistency in how the explicit instruction should be provided. There is a consensus among researchers that those who come
to school with more developed vocabularies continue to gain more words, creating a larger gap between those who do not have developed vocabularies. Students who have large developed vocabularies benefit from whole group instruction and implicit learning of words as well as small group and explicit instruction. Students who are at-risk for reading failure need early and intense explicit vocabulary instruction to narrow the achievement gap.

Biemiller and Andrew (2001) suggest that vocabulary is the missing piece to the comprehension puzzle and is one thing that can be taught to narrow the achievement gap. The library media center is in a unique position to provide students who are at-risk with evidence based interventions such as: repeated exposure to new words, instruction in multiple contexts, and active engagement with vocabulary. These teaching strategies lead to greater vocabulary gains for all students. In particular, the library provides an opportunity for explicit, active learning of words through read-alouds. Read-alouds create a backdrop for language learning in early elementary grades. Increasing vocabulary knowledge in early elementary will lead to greater reading comprehension as students progress through school and use reading as a tool for learning.
CHAPTER 3:
CONCLUSIONS

Vocabulary is one of the components of reading and is necessary for comprehension. Increasing young children’s vocabulary allows them to understand more of what is read to them. Children enter school with varied vocabulary knowledge. Children who have a large oral vocabulary can express their ideas and comprehend what is read to them. Children who come to school with a less developed vocabulary may struggle with reading comprehension. Vocabulary has been identified as one factor that teachers and librarians can address to narrow the achievement gap for reading comprehension. Discussing vocabulary as a teaching tool leads to several questions that are addressed in this section: “How is vocabulary connected to comprehension?”; “What social issues can lead to low vocabulary development?” and “How can teachers and librarians work together to increase early childhood vocabulary?”

Vocabulary and Comprehension

Vocabulary is an important component in reading development and is directly connected to comprehension. Vocabulary is defined as the words that a child can effectively use to communicate. A large vocabulary will allow students to understand more of what is spoken or read to them. Understanding a word involves more than just the definition of the word, but also how it relates to other words in the sentence, changes in contexts, and other forms of the word.

Vocabulary knowledge is a continuum and is constantly changing and evolving; words range from unknown to acquainted and established. Unknown words are those a student has
no previous knowledge of, and acquainted words are those a student has seen or heard but only has a vague idea of their meaning. A student’s knowledge of established words provides them with the ability to manipulate the word into different contexts, provide definitions, and examples of the words. Established words are those that lead to a student’s comprehension. Student knowledge of words must also have a strong depth and wide breadth. Breadth of knowledge increases comprehension and depth of knowledge increases fluency which allows for deeper comprehension.

Research has shown that students who have a mastery of phonics, but still struggle with comprehension lack vocabulary skills. Explicitly teaching vocabulary skills is one way to narrow the achievement gap between students who come to school with a large vocabulary and those who do not. Vocabulary and comprehension are said to have a reciprocal relationship. The more vocabulary a child has, the more they comprehend. The more a child comprehends, the more they read; the more they read, the more words they learn. Students need to know 90-95% of the words they read to be able to read for comprehension. Vocabulary knowledge in kindergarten is a predictor of later reading success. As students progress through school and master decoding skills, they begin reading to learn. It is in the ”reading to learn" stage that comprehension and vocabulary become increasingly important. Students who are "reading to learn" begin reading beyond their own knowledge and must rely on skills and strategies to make sense of what they are reading. Increasing vocabulary knowledge early on will lead to greater reading comprehension as students progress through school.
Social Issues and Low Vocabulary Development

Children come to school with differences in their early literacy abilities. Students who have low vocabulary skills are at risk for poor reading ability. There are several social issues that affect vocabulary development: family income, maternal education, and the home literacy environment. Poverty is the number one indicator for low vocabulary knowledge.

Several researchers showed a connection between socio-economic status (SES) and vocabulary skills indicating that a child’s environment plays a role in the development of reading abilities. Hart and Risley (2003) found that children in poverty hear 13 million words prior to starting school while children from higher SES families hear 45 million words prior to starting school. Researchers also determined that the kind of words students hear is affected by SES. Students with high vocabulary skills know twice as many words as low achieving students in first grade and the gap continues to grow as students progress through school. By twelfth grade, high achieving students know four times as many words. Socio-economic status also changes the way we communicate. Students from low SES families use a casual register with fewer words and incomplete sentences and syntax. Students who have only used a casual register to communicate struggle to communicate in a more formal register at school.

Maternal education is also a risk factor for low vocabulary development. Research indicates that the more educated a child’s mother, the more literacy opportunities are provided in the home. Testing indicated that higher receptive vocabularies were associated with children from more educated mothers. Also, the home literacy environment (HLE) correlates with vocabulary development. The type of interaction a parent has with a child plays a role with
promoting vocabulary development. Interactions that encourage vocabulary development include book reading, discussions while reading, and puzzle solving activities. The more literacy interactions between parent and child, the higher the child’s vocabulary skills on standardized tests.

**Vocabulary Development and the Librarian**

Research has proven that teaching vocabulary explicitly positively impacts all students. Teaching vocabulary can be part of the regular reading curriculum taught by the teacher as well as additional skills instruction taught by the librarian. The best gains in vocabulary skills came from programs that consisted of independent reading, listening to stories, participating in story discussions, and learning word strategies in repeated exposures to the same text and specific words. Students with high vocabulary skills show a sense of word consciousness where they recognize an unknown word and look to see if they can determine the meaning of the word by deconstructing the root, prefixes, or suffixes within the word.

Vocabulary can be taught explicitly where the teacher or librarian provide the meaning for preselected words or implicitly where words are learned through exposure to a variety of words through independent reading or read-alouds. Very young children rely on read-alouds for vocabulary development because they lack the reading skills necessary for independent reading. Books that offer an opportunity for vocabulary development are those that are beyond a young child’s independent reading ability because they provide complex sentence structure and a variety of language and vocabulary. Librarians can assist teachers finding
appropriate books for read-alouds that provide new and interesting words for students to learn.

Follow-up activities enhance the likelihood that children will remember new vocabulary. The library presents itself as a place for follow-up and extended activities after a word is initially taught within the regular classroom setting. Follow-up and extended activities include story discussion, providing examples and non-examples of the target word, and drawing pictures or writing sentences depicting the target word. Researchers note that it is important that students receive multiple exposures to new words across a variety of contexts. Librarians can provide kid friendly definitions to new words, repeat readings with the kid friend definition, ask students to raise their hands when they hear the target word, and ask open ended questions about the new word. All of these strategies allow for deep and repeated processing of target words. During discussion of a story and discussion of new vocabulary words it is important to ask elaboration and extension questions allowing the students to participate in forming a solid idea of what the word means and doesn’t mean.

Storybook reading strategies can fit into the regular library program. The librarian can pair books that are being taught within the classroom so students are provided with multiple exposures to the same word in different contexts or read the same book to provide repeated exposures to the same words. Librarian-led discussion before, during, and after reading the selected text can provide students with an explicit definition or meaning of the target word, kid-friendly definition, examples and non-examples of the word, and opportunities for retelling the story in a child’s own words. Students can be provided illustrations or writing prompts and
be encouraged to use the new vocabulary words to retell the story. Studies have found that the more instruction a word receives the greater chance a student has of learning the word.

Together the classroom teacher and the librarian can provide many opportunities for students to learn a variety of words that will be necessary for their comprehension skills as they become independent readers.

**Conclusion and Implications**

Vocabulary is an essential component in reading instruction. Students need a large vocabulary to comprehend text as they progress through school. Increasing young children’s vocabulary in the early years of school will allow them to learn more words and become better readers. Working together, teachers and librarians can provide students with implicit and explicit vocabulary learning opportunities. Students can be exposed to new words and given multiple exposures in a variety of contexts and repeated practice with new words. Research has shown that the best programs offer opportunities to participate in vast and varied reading, explicitly teach individual words, teach word learning strategies, and provide opportunities for students to encounter words in multiple doses in authentic contexts. Vocabulary instruction will positively impact reading comprehension and later test scores and may be the missing piece in the comprehension puzzle.
REFERENCES


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