An Investigation of the Impact of
Small Group Direct Vocabulary Instruction
on the Vocabulary Development
of Kindergarten Children Living in Poverty

A Dissertation
Submitted to the Graduate School
in Partial Fulfillment of the Requirements
for the Degree
Doctor of Philosophy in Education
By
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Dissertation Advisor: Dr. Patricia Clark

Ball State University
Muncie, Indiana
July 2013
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The purpose of this study was to determine the extent to which tri-weekly evidence-based vocabulary lessons implemented throughout the regular school day would increase kindergarten students’ expressive and receptive vocabulary development, thus decreasing the vocabulary gap exhibited between low-income children and their more advantaged peers upon entering kindergarten. The participants in this study were kindergarten students at an elementary school in the Midwest. The students in the control group received their normal vocabulary instruction from the district’s adopted reading series. The experimental group students received instruction from the evidence-based direct instruction vocabulary lessons found in Judy Montgomery’s *The Bridge of Vocabulary*. Data was collected before and after the intervention took place using the Peabody Picture Vocabulary Test, Fourth Edition and the Expressive Vocabulary Test, Second Edition, and was analyzed using an ANOVA to compare growth.
Analysis showed that students who received the vocabulary intervention made significantly greater growth in both expressive and receptive vocabulary development than students who received vocabulary instruction from the adopted reading series. More specifically, the students from poverty who received the intervention made significantly greater vocabulary development than the students from poverty who did not receive the intervention.
Chapter I – Introduction

Children from poverty enter kindergarten significantly behind their peers in their vocabulary development (Dickinson & Tabors, 2001; Hart & Risley, 1995; Hoff 2003). As they proceed through kindergarten, first, and second, this gap in language and vocabulary widens (Lucchese & Tamis-LeMonda, 2007; White & Kim, 2009). If students find themselves behind in vocabulary knowledge when they reach the third grade, they have significant problems reading and comprehending content knowledge (McKeown & Curtis, 1987; Chall & Jacobs, 2003). Hence, educators need to examine interventions and instructional methods that address this vocabulary and language deficit. It is important to address this concern early, before students enter the intermediate grades where the text becomes more complex. In a 2011 study by Hernandez, high school dropout rates for students who were unable to read on grade level by third grade were found to be four times higher than students who read proficiently by third grade. Eighty-eight percent of students who did not graduate from high school were either “below basic,” or “basic, not proficient” on reading tests in third grade. The effects increased significantly when poverty was taken into consideration. Children who have lived in poverty and are not reading proficiently in third grade are about three times more likely to dropout or fail to graduate from high school than those who have never been poor.

The National Reading Panel (NRP) released its research-based findings in a report in 2000. The studies reviewed suggested that vocabulary instruction does lead to gains in comprehension. The NRP’s 2006 publication, Put Reading First, indicates that vocabulary plays
a very important role in learning to read. Children’s early experiences with language and literacy can play a significant role in their academic success. Research suggests that the gap in academic achievement between the highest and lowest-achieving students can be attributed to the socio-economic status of the home in which the child is raised (Hank & Deacon, 2008).

It is not surprising that early deficits in oral language can translate into later deficits in reading comprehension. Many low-income children have limited word knowledge, which negatively affects their reading comprehension in the upper grades (White & Kim, 2009). White and Kim (2009) found that as early as first grade, children from higher-income families know at least twice as many words as children from less affluent families. As students advance in grade level, the materials they read become more difficult, and students who lack academic language can neither access nor comprehend these texts.

The experiences of young low-income children differ from those of more advantaged children in several domains that affect literacy development. Both oral language and the emergent literacy skills that develop in the preschool years are important foundations for later literacy (Dickinson & Tabors, 2001). Children whose family incomes are at or below the poverty level are especially likely to struggle with reading, a pattern that emerges early and continues in the elementary school years (Lee, Grigg, & Donahue, 2007).

Whitehurst and Lonigan (1998) identified several aspects of children’s language skills that are important at different points in the process of literacy acquisition. Initially, vocabulary is important. Reading, even at its earliest stages, is a process that is motivated by the extraction of meaning. Consistent with this logical connection, Whitehurst and Lonigan believe that there is a longitudinal relation between the extent of vocabulary development and later reading proficiency of children.
As beginning readers, children use the words they have heard to make sense of the words they see in print. Vocabulary is also very important to reading comprehension, because vocabulary is representative of all our personal experiences and concepts that are used to understand and construct meaning. As children learn to read more advanced texts, they must become skilled at understanding the meaning of new words that are not part of their oral vocabulary, which in turn increases their use of new vocabulary. Research has shown that children reared in lower socioeconomic conditions develop vocabulary and language use more slowly than children from higher socioeconomic status households (Dickinson & Tabors, 2001). Children living in poverty face a difficult learning situation upon entering school and continue to face academic and literacy difficulties as they progress through the grades.

A major handicapping condition for children living in poverty is the size of their vocabularies. A body of research indicates that children from poverty have not experienced a rich and rewarding culture of talk (Dickinson & Tabors, 2001; Hart & Risley, 1995; Hoff, 2003), have been limited in their opportunity to learn vocabulary, and have limited access to books (Sinatra, 2008).

Vocabulary instruction has been identified as the most important indicator of oral language proficiency, which is particularly important for the comprehension of both spoken and written language. General vocabulary knowledge is the single best predictor of reading comprehension. The interdependence of word knowledge and reading comprehension increases as students advance through school (White & Kim, 2009). One of the most persistent findings in reading research is that the extent of students’ vocabulary knowledge relates strongly to their reading comprehension and overall academic success. This relationship seems logical; to get to the meaning of what they have read, students need both numerous words in their vocabularies
and the ability to use various strategies to establish the meanings of new words when they encounter them (Lehr, Osborn & Hiebert, 2005).

Biemiller (2003) found that the impact of low vocabularies on reading comprehension becomes most apparent in the third grade, fourth grade, and above, when the comprehension of written material begins to exceed many children’s vocabularies. Most individual differences in vocabulary knowledge develop before third grade, when there are large differences in rates of word acquisition. By the end of second grade, children in the highest and lowest vocabulary quartiles differ by an average of 4,000 root words. The same extent of difference is seen from third through sixth grade. Unfortunately, slower learners do not “catch up.” If we could avoid the growing vocabulary gap during kindergarten to second grade, and possibly fill in some words already missing at the beginning of kindergarten, reading comprehension, perhaps, could be improved. Thus, vocabulary instruction becomes an important factor in reading instruction in early childhood education.

**Purpose of Study**

There have been previous studies that have examined the gap in vocabulary knowledge of students from poverty as they enter kindergarten (Dickinson & Tabors, 2001; Hart & Risley, 1995; Hoff, 2003). There have also been numerous studies conducted on the importance of vocabulary and language and the role they play in reading and comprehension (Freebody & Anderson, 1979; NRP, 2000; Pressley, 2000; Storch & Whitehurst, 2003) and the effects of poverty on early literacy development (White et. al., 1990; Hart & Risley, 1995; Juel et al., 2003; Biemiller, 2005). There is very little research, however, on specific vocabulary interventions that decrease the vocabulary deficit with students from poverty in their early elementary years.
This study examined the success of the vocabulary activities found in *The Bridge of Vocabulary* by Judy K. Montgomery to see if they helped to increase students’ expressive and receptive vocabularies as well as decrease the deficit in vocabulary in students from poverty in kindergarten classrooms. Each activity in this book contains an evidence-based statement, a short statement indicating how the research informs the practice described in the activity. In this study, there was a specific focus on the effects on the expressive and receptive vocabulary knowledge of kindergarten students living in poverty.

**Research Questions**

The central question that this study aimed to answer was. “Do the lessons found in *The Bridge of Vocabulary* help close the vocabulary gap that exists upon entering kindergarten between children living in poverty and their more advantaged peers?”

This study was based on the following three research questions and accompanying null hypotheses:

1. Do kindergarten students who receive small group direct vocabulary instruction from the lessons in *The Bridge of Vocabulary* make greater gains in vocabulary development than students receiving whole group vocabulary instruction from the adopted reading series?

Null hypothesis: Kindergarten students who receive small group direct vocabulary instruction from the lessons in *The Bridge of Vocabulary* do not make greater gains in vocabulary development than students receiving whole group vocabulary instruction from the adopted reading series.
2. Do low-income kindergarten students make greater gains in vocabulary development than middle-income students after receiving direct vocabulary instruction from the lessons in *The Bridge of Vocabulary*?

Null hypothesis: Low-income kindergarten students do not make greater gains in vocabulary development than middle-income students after receiving direct vocabulary instruction from the lessons in *The Bridge of Vocabulary*.

3. Do the low-income kindergarten students receiving direct vocabulary instruction from the lessons in *The Bridge of Vocabulary* make equal or greater gains in vocabulary development than the low-income kindergarten students receiving whole group vocabulary instruction from the adopted reading series?

Null hypothesis: Kindergarten students receiving small group direct vocabulary instruction from the lessons in *The Bridge of Vocabulary* do not make equal or greater gains in vocabulary development than the low-income kindergarten students receiving whole group vocabulary instruction from the adopted reading series.

**Definition of Terms**

1. *Closing the gap* refers to the deficit of words children from poverty come into kindergarten knowing compared to their peers (Hart & Risley, 1995). Hart and Risley (1995) found that by age four, children from families receiving welfare had an average vocabulary size of 525 words, whereas their peers from middle-class and professional families had vocabulary sizes of 749 and 1,116. Hart and Risley’s 2003 study found that children from poverty entered kindergarten with a 3,000 word receptive vocabulary while middle-class students entered kindergarten with a 20,000 word receptive vocabulary.
2. A person's *vocabulary* consists of the set of words within a language that are familiar to that person. A vocabulary usually develops with age, and serves as a useful and fundamental tool for communication and acquiring knowledge.

3. *Vocabulary instruction* consists of the lessons and activities that teachers use to instruct students on vocabulary terms, either through direct explicit instruction or in context.

4. *Poverty* is the state of one who lacks a certain amount of material possessions or money. For the purposes of this study, students who qualify for free or reduced lunch will be considered to be living in poverty and most likely have a low socioeconomic status.

5. *Socioeconomic status* is an economic and sociological combined total measure of a person's work experience and of an individual's or family’s economic and social position in relation to others, based on income, education, and occupation.

**Assumptions**

When conducting this study, it is an assumption that the vocabulary activities were implemented with fidelity. It is also assumed that the *Peabody Picture Vocabulary Test, Fourth Edition* and *Expressive Vocabulary Test, Second Edition* are accurate measures of vocabulary.

**Limitations**

One limitation of this study was having a small sample size. This study examined four kindergarten classrooms (two as the experimental group and two as the control group) with a total of 83 participants. This could have decreased the statistical power of the outcomes and limited the ability to make generalizations about the results. Another limitation might be that this study primarily looked at the differences in vocabulary between low-income students and their more advantaged peers; however, the researcher did not control for other variables, such as students with disabilities and students who speak English as a second language. The length of
the study could also be a limitation. The intervention took place for 12 weeks, and might have produced more significant outcomes if it was a longer-term study. Finally, no students were excluded from this study; therefore, the ESL population could be an outlier. All participants in this study who were identified as ESL also qualified for free or reduced lunch. Since research has shown that students who are English Language Leaners have lower vocabulary knowledge (Carlo et. al., 2004), this may have affected the significance of the free/reduced lunch students’ vocabulary growth.
History of vocabulary

A person's vocabulary consists of the set of words within a language that are familiar to that person. A vocabulary usually develops with age, and serves as a useful and fundamental tool for communication and acquiring knowledge. Throughout history there have been two diverse outlooks on vocabulary. From the beginning of the American education system up until the mid-20th century, vocabulary was defined as what we now consider sight words. Starting around the 1950s, during the schema era, vocabulary became defined as the meaning of words. Before the schema era, researchers and educators didn’t know much about processing in the brain and constructing meaning. After more was understood about how processing takes place, there was a shift in how the term vocabulary was defined.

Vocabulary development techniques were originally associated with sight-word instruction in the primary grades. Sight word instruction was the reading method of choice for all students in the 19th century and the first half of the 20th century, giving way to phonics instruction in the 1960s (Bender & Larkin, 2003). The 20th century also started with the introduction of Basal Readers as well as a new emphasis on silent reading (Smith, 2002).

One development in the 1920s was the publication of tools for estimating difficulty objectively. Thorndike’s Teacher’s Word Book contained the 10,000 most frequent words in the English language used in print and made possible estimates of the difficulty of the words used in
texts. These developments led to studies dealing with both vocabulary difficulty and readability. Both the vocabulary and readability studies sought objective means of measuring the difficulty of text for learning to read and for comprehending and learning from textbooks. The vocabulary studies concentrated mainly on primary-level reading textbooks. The studies found that the textbooks of the 1920s and 1930s, basal readers and content texts, were too difficult for most students in the grades for which they were intended. Analyses of the vocabularies of texts published after these studies show that the textbooks did become easier (Barr, Kamil & Mosenthal, 1996).

In 1930, Gates tried out materials of varying vocabulary loads and established optimal guidelines for texts. Research by Chall found that Gate’s vocabulary standards had been met by most basal readers by the late 1930s, but the vocabulary loads of primary basal readers continued to decline until the middle of the 1960s. One possible explanation for this might be the large number of immigrant children entering the elementary grades during the 1920s. This brought about the need for less-demanding readers. Another hypothesis offered by Chall is the change from a heavier phonic to a heavier sight-word approach for the teaching of beginning reading in the 1920s and extending to the early 1970s. The decline in teaching phonics and the greater emphasis on sight recognition may have resulted in a need for lower vocabulary loads in reading textbooks, especially in the primary grades. This suggestion has much validity when looking at the changes over time in the vocabulary in basal readers from the 1920s to the early 1980s. They decreased substantially from the 1920s to the 1960s, the years when sight-word approaches were predominant. From the late 1960s to the early 1980s, when the amount of phonics instruction increased, the vocabulary loads increased (Barr, Kamil & Mosenthal, 1996).
A linguistic insight emerged within the field during the 60s and 70s. Noam Chomsky published two books during this period. With these books Chomsky revolutionized the field of linguistics and paved the way, theoretically, for equally dramatic changes in the way that psychologists thought about and studied the processes of language comprehension and language acquisition. During the decade after the publication of Chomsky’s *Syntactic Structures*, a new field of inquiry, psycholinguistics, evolved. The psycholinguistic perspective had a number of influences on reading pedagogy. Initially, it valued literacy experiences that focused on making meaning. This meant that many classroom activities, particularly worksheets and games, which focused on enabling skills such as specific letter-sound correspondences, syllabication activities, structural analysis skills, specific comprehension activities, or study skills were devalued. Second, it helped us to value texts for beginning readers in which authors relied on natural language patterns, thus making it possible for emerging readers to use their knowledge of language to predict words and meanings of new vocabulary words. This meant that texts that relied on high-frequency words in short, choppy sentences or those based upon the systematic application of some phonics element were correspondingly devalued (Pearson, 2001).

One of the longest, most clearly articulated lines of research in literacy education describes the strong connection between readers’ vocabulary knowledge and their ability to understand what they read. The history of research on vocabulary instruction is less straightforward. A topic of great interest in the early decades of educational research, it diminished as a subject of investigation in the 1950s. Surveys of teaching practice suggested that vocabulary instruction through the early 1970s was little informed by prior research. In the mid-1970s, a review of reading research called vocabulary research a vanishing species. However, the 1970s and 1980s saw a remarkable resurgence in this area of work. In a 1977 article, Becker
posed the notion that a major factor in the school failure of disadvantaged children was inadequate vocabulary knowledge. His argument stimulated a dialogue about theories on vocabulary size and subsequent theorization about vocabulary development, its growth, and appropriate instruction. This well documented dialogue continues as a rich debate today about the number of words students learn over the course of their school years (Blachowicz, Fisher & Ogle, 2006).

By the mid 1980s, there was an increasing body of research on vocabulary and several reviews had been published. However, there were also fundamental issues left unanswered. What kind of vocabulary instruction increases the comprehension of text containing the instructed words and can systematic vocabulary instruction have an impact on children’s vocabulary knowledge and reading comprehension? In the 1980s, asking students to define words constituted much of the vocabulary instruction found in schools, with little direct teaching aimed at producing growth in vocabulary knowledge advocated in basal teacher’s manuals (Stahl & McKenna, 2006).

Throughout the mid-century students were presented with new words in sentences and then they were to guess at the meaning of the word by the context of the sentence. The implicit consensus before the 1970s and early 1980s was that vocabulary could take care of itself. Communicative language teaching focused on fluency, not on accuracy in speech, so discourse, not the structure of individual sentences, was more important. Vocabulary was still secondary. Through the 1980s, however, more and more researchers began to question the validity of this view. In the late 1970s and early 1980s, there was a renewed interest in vocabulary studies because of the increased availability of electronic technology. The computer aided research by making large amounts of information available for analysis, such as how words behave in actual
language use and the difference between written and spoken communication. Mental processes such as memory, storage, and retrieval were analyzed in terms of vocabulary. Research in these areas led to related study concerning vocabulary teaching and learning (Elliott, 2007).

Proponents of incidental learning of words, such as Nagy and Herman (1987), say the task is just too great to try to teach vocabulary deliberately, and that it is best done through reading rather than wasting school time on something that is not successful. When these researchers recommend learning words from context, they mean something other than what that phrase meant in the 1950s, when a teacher would put sentences on the board and students were told to guess meanings from words within these sentences. Researchers such as Nagy believe that most of word learning indeed comes from context, but only over a long period of time, and with many encounters in wide reading (Elliott, 2007).

**Theoretical Frame**

Children’s vocabulary development and knowledge can be directly linked to their background knowledge and schema. Research related to Schema theory is one contemporary application of Associationism. Schema theory proposes that knowledge is organized in the brain in complex, interrelated structures in which everything that is known about a particular topic is connected (Tracey & Morrow, 2006). Schema theory was developed by R. C. Anderson, a respected educational psychologist. This learning theory views organized knowledge as an elaborate network of abstract mental structures that represent one's understanding of the world. The term schema was first used by Piaget in 1926, so it was not an entirely new concept. Anderson, however, expanded the meaning. Anderson played an important role in introducing schema theory to the educational community. In a 1977 paper Anderson pointed out that
schemata provided a form of representation for complex knowledge and that the construct, for the first time, provided a principled account of how old knowledge might influence the acquisition of new knowledge. Schema theory was immediately applied to understanding the reading process, where it served as an important counterweight to purely bottom-up approaches to reading. The schema theory approaches to reading emphasize that reading involves both the bottom-up information from the perceived letters coming into the eye and the use of top-down knowledge to construct a meaningful representation of the content of the text (Adams & Collins, 1979).

There are great cultural variations in the ways in which children’s schemas are formed and how they develop language and communication styles. All cultural variations provide strong supports for children’s development; however, some variations are more likely than others to encourage development of specific kinds of word knowledge and language skills that are expected in typical U.S. school environments. It is important for educators to take these differences into account. In some communities, children are seldom direct conversational partners with adults, but rather engage with adults by participating in activities. In such situations, children’s learning and schema development occurs through observing adults and from the support provided in the contexts of the activities. This is in sharp contrast with communication patterns common in other communities, in which adults take the role of directly instructing young children in language and other skills through explicit lessons that are not embedded into the context of activities (Bransford, Brown & Cocking, 1999).

**Literacy Development**

Emergent literacy consists of the skills, knowledge, and attitudes that are presumed to be developmental precursors to conventional forms of reading and writing and the environments
that support these developments. This term has also been used to refer to a point of view about the importance of social interactions in literacy-rich environments for pre-readers. The term *emergent literacy* is used to denote the idea that the acquisition of literacy is best conceptualized as a developmental continuum, with its origins early in the life of a child, rather than an all-or-none phenomenon that begins when children start school. This conceptualization departs from other perspectives on reading acquisition in suggesting that there in no clear separation between reading and pre-reading (Whitehurst & Lonigan, 1998).

For instance the “reading readiness” approach, which preceded an emergent literacy perspective and is still dominant in some educational arenas, has at its focus the question of what skills children need to have mastered before they can profit from formal reading instruction. Such perspectives create a boundary between the pre-reading behaviors of children, and the “real” reading that children are taught in educational settings. In contrast, an emergent literacy perspective views literacy-related behaviors occurring in the preschool period as legitimate and important aspects of literacy. A second distinction between an emergent literacy perspective and other perspectives on literacy is the assumption that reading, writing, and oral language develop concurrently and interdependently from an early age from children’s exposure to interactions in the social contexts in which literacy is a component, and in the absence of formal instruction. Although researchers have examined the literacy-related behaviors of preschool-aged children for some time, the term *emergent literacy* is typically attributed to Marie Clay (Whitehurst & Lonigan, 1998).

Several aspects of children’s language skills are important at different points in the process of literacy acquisition. Initially, vocabulary is important. Reading, even at its earliest stages, is a process that is motivated by the extraction of meaning. Consistent with this logical
connection, it has been found that there is a longitudinal relation between the extent of oral
language and later reading proficiency of children (Whitehurst & Lonigan, 1998).

The importance of vocabulary knowledge has long been recognized in the development
of reading skills. In the early 20th century, researchers noted that growth in reading power means
continuous growth in word knowledge. Vocabulary is critically important in oral reading
instruction. A reader who encounters a strange word in print can decode the word to speech. If
it is in the reader’s oral vocabulary, the reader will be able to understand it. If the word is not in
the reader’s oral vocabulary, the reader will have to determine the meaning by other means, if
possible. Consequently, the larger the reader’s vocabulary, the easier it is to make sense of the
text (NRP, 2000).

In 2000, The National Reading Panel released its research-based findings in a report. The
studies reviewed suggested that vocabulary instruction does lead to gains in comprehension, but
that methods must be appropriate to the age and ability of the reader. The use of computers in
vocabulary instruction was found to be more effective than some traditional methods in a few
studies. It is clearly emerging as a potentially valuable aid to classroom teachers in the area of
vocabulary instruction. They reported that vocabulary can also be learned incidentally, in the
context of storybook reading or in listening to others. Learning words before reading a text is
also helpful. Instructional techniques such as task restructuring, repeated exposure, and
substituting easy words for more difficult words appear to increase vocabulary development as
well, especially with low-achieving students (NRP, 2000).

The NRP reported that vocabulary learning should entail active engagement in learning
tasks, and they also cautioned teachers that dependence on a single vocabulary instructional
method will not result in the most advantageous learning outcome and a balanced approach is optimal. The panel concluded that there is no single research-based method for teaching vocabulary. From its analysis, the panel recommended using a variety of direct and indirect methods of vocabulary instruction (NRP, 2000).

In 2006, the National Institute for Literacy published “Put Reading First” as a guide for understanding the findings of the National Reading Panel and a manual for teachers to review a body of scientifically based research in reading instruction. The publication stated that vocabulary plays a very important role in learning to read. As beginning readers, children use the words they have heard to make sense of the words they see in print. Beginning readers have a much more difficult time reading words that are not already a part of their oral vocabulary. Vocabulary is also very important to reading comprehension. Readers cannot understand what they are reading without knowing what most of the words mean. As children learn to read more advanced texts, they must learn the meaning of new words that are not part of their oral vocabulary (Armbruster, Lehr & Osborn, 2006).

In 2009, results from the national Reading First Impact Study illustrated the need for more direct and explicit vocabulary instruction. Although the Reading First legislation encouraged schools to implement scientifically based reading instruction in phonemic awareness, phonics, fluency, vocabulary, and comprehension, the evaluation of Reading First indicated that teachers spent more time on phonics and comprehension than on vocabulary instruction in both first and second grade (Gamse, 2008). A first step towards addressing the vocabulary gap is to consider some principles to increase the quantity and quality of vocabulary instruction from kindergarten through eighth grade during the school day (White & Kim, 2009).
**Home environment and socioeconomic status**

The environmental context in which a child is raised has long been recognized as crucial in determining developmental outcomes. Many children come from homes in which instability and a lack of continuity of care, accompanied by inadequate nutrition and medical care, may constitute a level of environmental stress that is detrimental to their functioning in a number of areas, including language. A growing body of research has examined differences in cognitive growth and language development of children from different cultural and socioeconomic backgrounds and the implications of these differences for subsequent academic achievement (Chapman, Chapman, Kaiser & Hancock, 2004).

For most children, the interior of the home and its immediate surroundings are the first environments they experience throughout their early years. Young children spend the majority of their time in the home. Home environments have been shown to be a major factor that influences the overall development of children. Within the home, children also have their early interactions with the members of their family, and availability and quality of resources for learning and playing largely determine the nature of these interactions. Availability of stimulating objects, books, and play materials within the home are critical indicators for the overall quality of the home environment (Ilus, 2006).

Poor children confront widespread environmental inequities. Compared with their economically advantaged counterparts, they are exposed to more family turmoil, violence, separation from their families, instability, and chaotic households. Low-income children experience substantially less cognitive stimulation and enrichment in comparison to wealthier children. Low-income compared with middle-income parents speak less often and in less sophisticated ways to their young children, and as the children grow older, low-income parents
are less likely than middle-income parents to engage jointly with their children in literary activities such as reading or visiting the library (Evans, 2004).

Mistry et al. (2010) conducted a study to find out to what extent family and social risk in young children is a predictor of their school readiness outcome. They observed that risk exposure during infancy and the preschool years mattered for children’s school readiness outcomes in part through its influence on parental responsiveness and the provision of language and literacy stimulation in the home during toddlerhood and prekindergarten. They concluded that children in families facing higher levels of adversity experienced lower levels of cognitive stimulation and responsiveness in parent-child interactions as compared to children in families experiencing lower levels of risk.

The emergent literacy knowledge and skills that children bring to first grade from prior experiences in their homes, preschool centers, and kindergartens are critical determinants of how well they will learn to read in elementary school. In turn, how well children learn to read in elementary school is a critical determinant of their lifelong career and economic prospects (Storch & Whitehurst, 2001). Storch and Whitehurst (2001) found that the home literacy environment plays out its influence early in a child’s development. Literacy environment, together with parental expectations for their children’s school success and parental characteristics (IQ, education, reading behaviors), accounts for 40% of the variance in preschool children’s early literacy skills. Children from poverty often lack experience with literacy events. These are occasions in which written language is integral to the nature of participants’ interactions and their interpretive processes and strategies. Familiar literacy events for many preschoolers are bedtime stories, reading cereal boxes, stop signs, and television ads (Heath, 1982).
Research has shown that children reared in lower-SES conditions have developed less vocabulary and than children from higher-SES households by the time they enter kindergarten (Dickinson & Tabors, 2001). Children living in poverty face a difficult learning situation upon entering school and continue to face academic and literacy difficulties as they progress through the grades. The major handicapping condition is the size of their vocabularies. In their home and environmental situations, children reared in poverty have not experienced a rich and rewarding culture of talk (Dickinson & Tabors, 2001; Hart & Risley, 1995; Hoff, 2003), have been limited in their opportunity to learn vocabulary, and have limited access to books (Sinatra, 2008). The level and quality of conversation children experience as they grow up in their households and interact with their mothers and other family members through talk and book readings appears to be the most essential ingredient for the development of vocabulary (Sinatra, 2008).

Families differ enormously in the level to which they provide a supportive environment for a child’s literacy development. Measures of home literacy environment itself, therefore, may provide an indication of an individual child’s degree of risk of reading difficulties. Five areas of family functioning that may influence reading development include value placed on literacy, press for achievement, availability and instrumental use of reading materials, reading with children, and opportunities for verbal interaction (Snow & Burns, 1998).

The major dimension of variability for measures of verbal interaction in the home is the element of quantity. It is now clear that, though poor and uneducated families provide much of the same array of language experiences as more advantaged educated families, the quantity of verbal interaction they tend to provide is much less (Hart & Risley, 1995). A lower quantity of verbal interaction constitutes a risk factor primarily in that it relates closely to lower child
vocabulary scores. Because vocabulary is associated with reading outcomes, it seems likely that reduced opportunities for verbal interaction would function as a risk factor. It is possible, too, that the effects of differences in verbal interaction may not show up until after the primary grades, when more high-level vocabulary knowledge and comprehension is required (Snow & Burns, 1998).

Children’s early experiences with language and literacy can play a significant role in their academic success. Research suggests that the gap in academic achievement between the highest and lowest-achieving students can be attributed to the socio-economic status of the home in which the child is raised (Hank & Deacon, 2008). There are large social class differences in children’s exposure to experiences that might support the development of emergent literacy skills (Whitehurst & Lonigan, 1998). Ninio (1980) found that mothers from lower-SES groups engaged in fewer teaching behaviors during shared reading than mothers from middle-class groups. Numerous studies have documented differences in the pattern of book ownership and frequency of shared reading between lower- and higher-SES families. McCormick and Mason (1986) reported that 47% of their sample public-aid parents reported no children’s books in the home, whereas only 3% of their sample of professional parents reported the absence of books. Adams (1990) estimated that the typical middle-class child enters first grade with 1,000-1,700 hours of one-on-one picture books reading, whereas a child from a low-income family averages just 25 hours.

Family socioeconomic status (SES) is a powerful predictor of many aspects of child development. It has been established that children from lower SES build their vocabularies at slower rates than children from higher SES. This relation could be a result of several factors including biologically based differences in children’s abilities, caused by genes or health; global
effects of differences in family functioning and home environments; and specific effects of
differences in language-learning experiences (Hoff, 2003).

Early language development is rooted in the interactions children have with their parents,
significant caregivers, and peers. These early social exchanges both foster developing language
skills and provide a vital foundation for children’s school readiness and academic achievement
(Lucchese & Tamis-LeMonda, 2007). In a study by Hoff (2003), it was found that the maternal
speech was the biggest influence on children’s productive vocabulary development. The
observed differences in growth in productive vocabulary between a group of children from high-
SES families and a group of children from low- and mid-SES families was fully explained in
terms of differences in their mothers’ speech. The observed differences in the quantity, lexical
richness, and sentence complexity of mothers’ speech to their children were found in the speech
they used to address open-ended questions from the researcher. SES may also be associated with
differences in the time available for leisurely parent-child interaction and in the magnitude of
other stresses on parents, and these shape parents’ interactions with their children (Hoff 2003).

Children living in poverty face a difficult learning situation upon entering school and
continue to face academic and literacy difficulties as they progress through the grades. The
major handicapping condition is the size of their vocabularies. In their home and environmental
situations, children from poverty have not experienced a rich and rewarding culture of talk that is
used in schools and have been limited in their opportunity to learn vocabulary. Research has
shown that children reared in lower-SES conditions develop vocabulary and language usage
more slowly than children from higher-SES households (Dickinson & Tabors, 2001).
Differences in growth rates and vocabulary development manifest themselves early in a child’s
life and seem most closely related with socioeconomic status. There is a gap in vocabulary
knowledge between economically disadvantaged and economically advantaged children that begins in preschool and is an important correlate of poor school performance. The end result is that enriched environments promote vocabulary development. Good readers read more, which in turn helps them become even better readers with larger vocabularies. Poor readers read less, which contributes to their becoming poorer readers with more limited vocabularies (Lucchese & Tamis-LeMonda, 2007).

It is not surprising that early deficits in oral language can translate into later deficits in reading comprehension (White & Kim, 2009). Many low-income children have limited word knowledge, which negatively affects their reading comprehension in the upper grades. As early as first grade, children from higher-income families know at least twice as many words as children from less affluent families. As students advance in grade level, the materials they read become more difficult, and students who lack academic language can neither access nor comprehend these texts (White & Kim, 2009). Students who live in poverty, likely also have impaired verbal tools. They do not have the vocabulary to deal with cognitive tasks. Vocabulary words are the building blocks of the internal learning structure. Vocabulary is also the tool to better define a problem or seek more accurate solutions (Payne, 1996).

In upper elementary grades, many low-income children lack the literacy skills needed to succeed in school and read grade-level texts. In fourth and eighth grade, low-income children perform significantly worse on standardized reading comprehension tests compared to middle-income children. This literacy gap is rooted in children’s early and ongoing experiences at home and at school. Both the quality of children’s oral language experiences at home and the quality of vocabulary instruction in school have lasting consequences that contribute to the gap (White & Kim, 2009).
This gap in vocabulary was studied by researchers, Hart and Risley (2003). They observed the language and vocabulary usage of 42 families ranging from low- to high-SES. They found an already significant gap in vocabulary by age three. Their results are summarized in the table below:

<table>
<thead>
<tr>
<th>Table 1: Summary of Hart and Risley’s Findings</th>
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<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Professional</td>
</tr>
<tr>
<td>Working-Class</td>
</tr>
<tr>
<td>Welfare</td>
</tr>
<tr>
<td>Parent</td>
</tr>
<tr>
<td>2,176</td>
</tr>
<tr>
<td>Recorded vocabulary size</td>
</tr>
<tr>
<td>Average utterances per hour</td>
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<tr>
<td>487</td>
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</table>

By age three, children from professional families have larger vocabularies than children from working-class and welfare families. The recorded vocabulary size of children from professional families (average 1,116 words) is substantially larger than for children from working-class (average 749 words) and welfare families (average 525 words). By age four, these early deficits in vocabulary size have accumulated a 30 million-word gap in word exposure between children in professional (45 million words) and welfare families (13 million). Children in professional families have heard almost as many words by age one (11.2 million) as children in welfare families have heard by age four (Hart & Risley, 2003).

These children have a gap in both their expressive and receptive vocabularies when they enter school. Expressive vocabulary requires a speaker or writer to produce a specific label for a particular meaning. Receptive vocabulary requires a reader to associate a specific meaning with a given label as in reading or listening. A word is in your receptive vocabulary when you
understand it when others use it. A word is in your expressive vocabulary when you think to use it. Well over half of the average adult's vocabulary is receptive (Hart & Risley, 1995).

Young children from different socioeconomic groups come to school with dramatically different listening vocabularies. Low-income children enter kindergarten with 3,000 words, while children from more advantaged families may enter with a vocabulary of 20,000 words. Comparisons across socioeconomic groups show that less-educated parents tend to talk less and use less-varied vocabulary with their children (Hart & Risley, 2005). This lack of vocabulary can be a detriment because talking to children is crucial for developing language and is a major precursor to literacy. Studies have found that parents from middle- and upper class families not only talk more frequently to their children, but also provide them with the kinds of interactions that promote school-valued and literate behaviors (Dickinson & Tabors, 2001). These kinds of language interactions provide children with opportunities to become familiar with the language of school texts and also predict vocabulary growth and future academic outcomes (Hart & Risley, 1995).

Hart and Risley found that the added amounts of talk time they recorded in some of the more talkative families concerned topics other than the giving and getting necessary in everyday life, and it was this extra, optional talk that was highly correlated with measures of the children's verbal and cognitive competence at age 3. The data showed that when parents and children were staying to talk together with no need beyond social interaction, much more was happening than children hearing and saying words and sentences or learning reference and the name of things. Most of the optional talk occurred when parent and children were partners in mutual or parallel activities in which accomplishing something was rewarding but not imperative, like doing a puzzle. The extra talk recorded in the parents’ data began to appear in the children’s data when
the children started using words to explore how things work and how people respond. Talkativeness affected the amount the children learned and their language developed (Hart & Risley, 1999).

Dudley-Marling and Lucas (2009) challenged the validity of the 1999 Hart and Risley study. They argued that the findings should not have been generalized, because the population sample was too small and not very diverse. They felt like the study reinforced stereotypes of the poor and presented an ethnocentric bias. They pointed out that Hart and Risley transformed the linguistic differences they found among the welfare families in their study into linguistic deficiencies and did not take into account the language of the culture. Dudley-Marling and Lucas considered this failure to consider the language of poor families on its own terms as a fatal flaw in the study, and therefore do not believe the educational community should embrace its findings with such significance.

Teachers in high-poverty schools often report having limited experience and expertise in successfully teaching vocabulary and academic language to low-SES students. Lower-income children who need preparation in academic language and exposure to the kinds of texts that promote academic vocabulary are not getting much of either type of instruction in their classrooms. Explicit vocabulary instruction often doesn’t occur in schools, and when it does, it appears to be insufficient for promoting increased comprehension of text (McKeown & Curtis, 1987).

Low-income students consistently have less access in school to high-quality conversation and reading materials than do middle-class students. Research focusing on teacher dialogue and availability of classroom materials in low-income first-grade classrooms found that teachers spent less than four minutes a day engaging their students with informational texts, as these were
often unavailable. These informational texts are rich in academic language and content-area vocabulary and provide obvious vehicles for enhancing classroom discussion, developing background and world knowledge, and increasing vocabulary. Providing more time and opportunities for less-advantaged students to read or be read to during the school day would be a critical support for increasing language and literacy across the grade levels (White & Kim, 2009).

Children whose family incomes are at or below the poverty level are especially likely to struggle with reading, a pattern that emerges early and continues in the elementary school years. On recent national assessments, only 43% of low-income fourth graders in large urban districts read at a basic level or higher. Although national assessments have documented modest, incremental improvements in low-income students’ reading achievement over the past decade, the performance of most low-income students remains below expectations (Lee, Grigg, & Donahue, 2007).

The experiences of young low-income children differ from those of middle-class children in several domains that affect literacy development. Poor children are less likely to attend educationally focused preschools both because of greater cost and less availability in their communities. When low-income children are enrolled in preschool, their caregivers typically have lower levels of education and preschools may have less-advantageous teacher-child ratios, both factors that are associated with less consistent caregiver support for oral language and emergent literacy (Dickinson & Tabors, 2001).

In a 2001 study, Neuman and Celano concluded that communities where low-income children live characteristically offer less access to print than the communities of middle-class children. They found that the children from the middle-income communities had access to a
larger number of print resources, ranging from bookstores, to signs, to observations of people reading in public spaces, to various institutions of learning. Those who came from the poorer communities primarily relied on public institutions for access to print materials.

Although parent-child interaction patterns vary considerably within social groups, parents of young low-income children are less likely than middle-class parents to engage in the kinds of focused conversational and book-reading routines that promote school-relevant language and literacy skills (Hoff, 2006). Both oral language and the emergent literacy skills that develop in the preschool years are important foundations for later literacy (Dickinson & Tabors, 2001).

Foundational skills and understandings of language and literacy ideally develop in home and preschool contexts. They include frequent interaction with print, attention to letter names and sounds, opportunities to engage in extended talk, and exposure to early literacy opportunities (Dickinson & Tabors, 2001). There is wide variability in home and school experiences of low-income children.

One study found that students who began first grade with stronger vocabularies showed generally higher levels of reading comprehension in grades one, two, and three. The relative gaps between lower and higher vocabulary students’ reading comprehension did not change over time. On one hand, the growth rates in reading comprehension for most of the students were very similar, regardless of their initial skill levels in vocabulary. On the other hand, the children who began school with lower vocabularies typically stayed on a lower trajectory in reading comprehension throughout the primary grades, despite the supports of enriched reading instruction. Consistent with other research, the results of this study confirm the importance of the skills children bring with them to the start of formal literacy instruction in pre-school or
kindergarten. Children’s vocabulary skills at the beginning of first grade made a critical contribution to later achievement in reading comprehension (Hemphill & Tivnan, 2008).

Work by Hart and Risley (1995), among others, has focused attention on the fact that many low-income children enter school with limited vocabularies. The impact of vocabulary on reading achievement remains strong even when the diversity in student characteristics is large, and average levels of vocabulary are relatively low. Findings emphasize the strong and consistent role of vocabulary as a predictor of reading comprehension, a role that becomes relatively more important, compared to other predictors, as children move beyond the first two grades (Hemphill & Tivnan, 2008). A study by Hemphill and Tivnan (2008) found that early vocabulary was a strong predictor of second- and third-grade reading and comprehension levels. However, Dickinson and Tabors (2001) have pointed to the longer-term impact of kindergarten and first grade vocabulary on subsequent reading achievement and to the particular impact of vocabulary on reading comprehension.

**Vocabulary Instruction**

Perhaps the greatest tools educators can give students for succeeding, not only in their education but also more generally in life, is a large, rich vocabulary and the skills for using those words. One’s ability to function in today’s complex social and economic world is greatly affected by one’s language skills and word knowledge. In addition to the vital importance of vocabulary for success in life, a large vocabulary is more specifically predictive and reflective of high levels of reading achievement (Pikulski & Templeton, 2011). The Report of the National Reading Panel (2000), for example, concluded that the importance of vocabulary knowledge has long been recognized in the development of reading skills. As early as 1924, researchers noted that growth in reading power relies on continuous growth in word knowledge.
One of the most persistent findings in reading research is that the extent of students’ vocabulary knowledge relates strongly to their reading comprehension and overall academic success. This relationship seems logical; to get to the 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. Young students who don’t have large vocabularies or effective word-learning strategies often struggle to achieve comprehension (Lehr, Osborn & Hiebert, 2005).

Vocabulary instruction has been identified as the most important indicator of oral language proficiency, which is particularly important for the comprehension of both spoken and written language. General vocabulary knowledge is the single best predictor of reading comprehension. The interdependence of word knowledge and reading comprehension increases as students advance through school (White & Kim, 2009). Special note should be made of the relationship between vocabulary and comprehension. This relationship is unparalleled in strength and importance. One’s knowledge of vocabulary relevant to a text is integrally related to the comprehension of that text. Overall vocabulary knowledge is an excellent predictor of how strong a comprehender one is, and vice versa. Most importantly, at least some approaches to teaching vocabulary result not only in gains in vocabulary but in gains in comprehension as well (Hoyt, 2005).

Vocabulary is very important for literacy development, since it is impossible to understand a text fully without understanding virtually all of the words. There is a long history of vocabulary research that has concluded that good vocabulary instruction has a strong effect on students’ learning words, and it has a modest, although still significant and meaningful, effect on reading comprehension. For English speakers and ELLs, word learning is enhanced when the
words are taught explicitly, embedded in meaningful context, and students are provided with ample opportunities for their repetition and use (Kamil, Pearson, Birr-Moje & Afflerbach, 2011).

Becker (1977) noted that teaching disadvantaged children to successfully identify words was insufficient to have them reach reading comprehension beyond second grade. He stated that disadvantaged children’s declining reading comprehension in the third and fourth grades largely resulted from lack of adequate vocabulary knowledge. Becker also noted that as a group, the same disadvantaged students proved capable of grade level performance in mathematics, which is a subject in which all necessary information is taught in school. Thus the lack of learning opportunities, not ability alone, were the probable cause of the low levels of reading comprehension of children in Becker’s study.

The impact of low vocabularies on reading comprehension becomes most apparent in third grade, fourth grade, and above, when the comprehension of written material begins to exceed many children’s vocabularies. Most individual differences in vocabulary knowledge develop before third grade, when there are large differences in rates of word acquisition. By the end of second grade, children in the highest and lowest vocabulary quartiles differ by an average of 4,000 root words. The same extent of difference was seen from third grade through sixth grade. Unfortunately, slower learners do not “catch up.” If we could avoid the growing vocabulary gap during kindergarten to second grade, and possible fill in some words already missing at the beginning of kindergarten, reading comprehension, perhaps, could be improved. Thus, vocabulary instruction becomes an important factor in reading instruction in early childhood education (Beimiller, 2003).

Vocabulary skills are important in predicting reading development over time, because they are implicated in multiple aspects of reading. Children who begin school with larger
vocabularies show greater sensitivity to sounds patterns within words and thus are advantaged at learning early letter-sound correspondences (McDowell, Lonigan, & Goldstein, 2007). As children move beyond the beginning stages of learning to read, breadth of vocabulary supports accurate decoding of less common words. Vocabulary size is associated with other aspects of word knowledge such as morphological awareness, a critical component of skilled reading in third grade and beyond (Carlisle & Fleming, 2003). Breadth of vocabulary reflects world knowledge, children’s background understandings of areas of experience that are critical foundations of conversation comprehension (Hemphill & Tivnan, 2008).

Vocabulary development relates to word recognition as children try to recognize printed words they already know in speech. Although younger children have in their spoken vocabulary most of the words that they are likely to encounter in print, there are still many words that occur in young children’s picture books that children do not hear in the spoken language around them. By fourth grade, the vocabulary that is found in books is considerably richer than the words children use in speech (Temple, Ogle, Crawford & Freppon, 2005). As Nagy (1988) points out, however, readers who encounter 100 unknown words will learn perhaps five of them. Children must do a great deal of reading, in at least moderately challenging texts, to learn vocabularies from reading. Huge discrepancies exist, however, in the amount of reading children do.

Many students acquire academic background knowledge outside of school and come to subject-area classes already knowing and using terms essential for understanding content. Through an abundance of conversations and experiences, they may have quite incidentally gained the academic background knowledge they need to succeed in school. In contrast, students from families with fewer resources may have lacked such opportunities and have not incidentally acquired important academic background knowledge. These two types of students enter school
with significant discrepancies in terms of their chances for academic success. As time progresses, the gap in academic background knowledge grows even larger, as does the gap in academic achievement between the two groups. Given the importance of academic background knowledge and the fact that vocabulary is such an essential aspect of it, one of the most crucial services that teachers can provide, particularly for students who do not come from academically advantaged backgrounds, is systematic instruction in important academic terms (Marzano & Pickering, 2005).

Interventions designed to promote oral language development of reading and academic achievement must be rooted in an understanding of the language and textual demands of grade-level content. This would result in more targeted support for particular needs of low-income children. Rich language environments at school can promote the kind of language skills that low-income children need to become better readers and successful students (White & Kim, 2009).

Unlike phonics and other literacy skills, building basic root vocabulary requires continuing support, especially for less advantaged and lower-vocabulary children. To increase the vocabulary knowledge of children, there must be an ongoing effort to introduce and explain new vocabulary, from kindergarten at least through grade six. Unlike phonics and morphological analysis, both of which can be taught in two or three years, vocabulary instruction is a never-ending effort (Biemiller, 2003).

Learners should be actively involved in making meaning with new vocabulary, that vocabulary be related to other words, and that new words be tied to the learners’ own experience (Temple, Ogle, Crawford & Freppon, 2005). Biemiller (2003) noted that there has been increasing emphasis on teacher-directed instruction in word-identification skills. There is
evidence that reading books orally to children several times and explaining 5-10 readings while reading can be effective with primary level children. He suggests that primary teachers devote at least half an hour a day to developing vocabulary because building vocabulary is as important as learning to identify printed words.

There are three related reasons why early and sustained vocabulary development is critically important for the child living in poverty. One, it enhances reading comprehension. This is based on the strong relationship between vocabulary knowledge and reading comprehension as the more words one knows and can read with understanding in a text, the stronger the understanding of that text will be. Secondly, it increases understanding of content topics. This is related to the overall academic arena as children progress through the grades. As literary readings of English classes becomes more challenging and topics covered in content area classes become more complex, vocabulary becomes less and less familiar with many words quite rare to the listening and background understanding of the poverty-level child. Finally, it supports reading of expository text style. The expository, informational style of writing presents topics, concepts, and specific vocabulary often far removed from the background experience of the reader in text styles that often require interest and motivation to read (Sinatra, 2008).

When thinking about vocabulary development, it is important to consider how word knowledge grows and how it deepens. Both aspects of vocabulary are critical to the ability to use, act on, and expand children’s language knowledge base. Vocabulary grows by expanding the child’s exposure to, and interaction with, language. The more language a child hears, the more words he will learn to use. Vocabulary grows by embedding new words in familiar contexts. Replace words such as “big and little” with “short and tall” when describing things in normal everyday situations. Vocabulary grows by exposing children to rare and intriguing
words. Young children love the sound of long and seemingly difficult words. They will often pick up unusual words through stories that are read to them, or through exposure to dramatic uses of language. Vocabulary knowledge deepens by knowing the concepts a word represents, knowing multiple word associations, understanding word associations, knowing how a word is used in conjunction with other words, and understanding a word’s syntactic behavior (Canizares, 2003).

Children use the natural medium of language for thinking. Those who acquire a substantial vocabulary are often able to think more deeply, express themselves more clearly, and actually learn new things more quickly. This knowledge builds more knowledge, and more word power, so that by the time children get to school they will have two important skills that are critical to later reading success: knowledge about their world and the language to communicate with others. Teachers in early childhood classrooms can encourage this vocabulary development by participating in conversations with children and sharing songs and rhymes. It is also beneficial to their vocabulary growth to tell stories and then allow students to tell stories, pull words from pictures books during shared reading, and include show and tell time in weekly routines (Neuman, 2006).

**Direct Instruction.** According to the National Reading Panel, explicit instruction of vocabulary is highly effective. To develop vocabulary intentionally, students should be explicitly taught both specific words and word-learning strategies. To deepen students' knowledge of word meanings, specific word instruction should be robust. Seeing vocabulary in rich contexts provided by authentic texts, rather than in isolated vocabulary drills, produces strong vocabulary learning (NRP, 2000). Such instruction often does not begin with a definition, for the ability to give a definition is often the result of knowing what the word means. Rich and robust vocabulary
instruction goes beyond definitional knowledge; it gets students actively engaged in using and thinking about word meanings and in creating relationships among words (Diamond & Gutlohn, 2006).

Direct instruction helps students learn difficult words, such as words that represent complex concepts that are not a part of the students’ everyday experiences. Direct instruction of vocabulary relevant to a given text leads to better understanding and reading comprehension. Direct instruction includes providing students with specific word instruction and teaching students word-learning strategies. Specific word instruction can deepen students’ knowledge of word meanings. In-depth knowledge of word meanings can help students understand what they are hearing or reading. It can also help them use words accurately in speaking and writing. In particular, teaching specific words before reading helps both vocabulary learning and reading comprehension. Word-learning strategies would include how to use dictionaries and other reference aids to learn word meanings, how to use information about word parts to figure out meanings of words in texts, and how to use context clues to determine words meanings (Armbruster, Lehr & Osborn, 2006).

Studies have indicated that the intentional, explicit teaching of specific words and word-learning strategies can both add words to students’ vocabularies and improve reading comprehension of texts containing those words. Whereas intentional instruction can benefit all students, it is especially important for students who have not developed the decoding and comprehension skills necessary for wide reading (Lehr, Osborn & Hiebert, 2005).

Research shows that there are more words to be learned than can be directly taught in even the most ambitious program of vocabulary instruction. Explicit instruction in word-learning
strategies gives students tools for independently determining the meanings of unfamiliar words that have not been explicitly introduced in class. Since students encounter so many unfamiliar words in their reading, any help provided by such strategies can be useful (Diamond & Gutlohn, 2006). Teaching specific terms in a specific way is probably the strongest action a teacher can take to ensure that students have the academic background knowledge they need to understand the content they will encounter in school (Marzano & Pickering, 2005).

To close the literacy gap in the elementary grades, schools should consider using systematic vocabulary instruction throughout the school day. Lower-income children who need preparation in academic language and exposure to texts that promote academic vocabulary are not getting enough of this type of instruction. Explicit vocabulary instruction rarely occurs in schools, and when it does it appears to be insufficient for promoting word growth and increased comprehension of text (White & Kim, 2009).

As late as fifth grade, children learn eighty percent of new words as a result of direct explanation, usually by a teacher. This is good news because it underscores the effectiveness of teacher-directed instruction in improving vocabulary and comprehension. Interventions that specifically target vocabulary learning have shown promising results for at-risk children and should be a primary component of expanded learning time (White & Kim, 2009).

Educators are not in the position to teach the sheer number of words struggling readers need to know to access school texts, participate in academically productive discussions, or produce academic writing. Therefore, it is paramount to target the kinds of words that students are likely to encounter in textbooks and on tests and explicitly teach these across content areas (White & Kim, 2009).
Not all words require vocabulary instruction equally. Beck and McKeown (1985) created a three-tiered system for selecting target words to teach. Tier 1 vocabulary words are basic words. Most cannot be demonstrated and do not have multiple meanings, but students will need to know them. Sight words would be found at this level. Estimates indicate that about 8,000 basic words need no instruction. Tier 2 vocabulary words occur in high frequency and are found in a variety of domains. Estimates indicate that there are about 7,000 words for tier 2 or 700 words per year. These words have a powerful impact on verbal functions. They are important to understanding the text and include words like merchant, maintained, and required. Tier 3 vocabulary words are words with a low frequency of use and are often limited to specific domains. They are best learned when a specific need arises. These include content area words like economics, igneous, and Revolutionary War (Marzano & Pickering, 2005).

Three dominant direct vocabulary-teaching strategies include modeling, synonyms, and definitions. Teachers can model positive and negative examples of the new concept, tests students on their mastery of the examples, and present different examples of the new word along with examples of previously taught words. When using synonyms, the teacher equates a new word with a known word that has the same meaning. The teacher can then test a set of positive and negative examples for the new word and provide practice in applying several recently taught synonyms. It is imperative that teachers select words that students know when using synonyms to teach a new word. To directly instruct the meaning of a new word by using definition, the teacher tells the students the definition and has them repeat it. The teacher then tests the students on positive and negative examples to ensure that the students understand the definition and that they are not just memorizing a series of words (Temple, Ogle, Crawford & Freppon, 2005).
Considering that both intentional explicit instruction and scaffolded incidental learning take place in a sound vocabulary program, the teacher has several responsibilities. They should teach specific vocabulary through explicit instruction of new words. Teachers need to teach independent strategies that students can use to unlock the meanings of words through instruction in strategy content and processes. It is also the responsibility of the teacher to differentiate instruction based on the needs of ELLs, emergent readers, and the opportunities afforded by technology. They should also develop general vocabulary by structuring an environment that builds word awareness through play, the availability of good books to encourage wide reading, and teacher modeling of word interest (Blachowicz, Fisher & Watts-Taffe, 2005).

Good vocabulary instruction includes at its base a great deal of time spent reading and having rich conversations about text. Good vocabulary instruction also focuses on important words, and usually involves teaching conceptually related words rather than individual words unrelated to one another. In quality vocabulary instruction, the focus is on words that are interesting and/or have relationships to one another. Connections should abound as students focus on relationships between words they already know and words they are learning. These words are then used multiple times in an array of meaningful contexts. Learners who are nourished by such an environment develop a strong sense of word consciousness and a sense of wonder about words and how they can be used. The best word learning classrooms are filled with an intentional focus on vocabulary (Hoyt, 2005).

The results of a study by Fien et al. (2011) provide support that small-group instruction enhances the vocabulary knowledge and expository retellings of students identified with low vocabulary and language skills. These findings were in the context of classroom in which students were already receiving high-quality whole-class read aloud instruction that incorporated
direct and explicit vocabulary and comprehension instruction. In other words, the small-group intervention effect on increased vocabulary was an added value above and beyond the benefit of the whole-class direct instruction alone.

Research suggests that students should be provided with rich vocabulary instruction, which includes such things as questioning, clarifying, repeating, pointing to words, supplying examples, and providing definitions in words that a young child can understand. There is agreement by many researchers that, in order for students to fully comprehend a word, the instructional encounters provided by educators must be rich, interactive, and multi-faceted (Beck 2005; Brett, Rothlein, & Hurley, 1996; Penno, Wilkinson, & Moore, 2002). Researchers advocate active involvement on the part of the learner. Several studies have shown that when students are active participants in vocabulary instruction, more vocabulary words are learned (Hargrave 2000; Penno, Wilkinson, & Moore, 2002; Senechal, 1995).

Systematic vocabulary instruction can help children learn a word with multiple meanings and understand how a word’s meaning can change in different contexts or how it is used in a particular subject matter area. Systematic vocabulary instruction delivered by elementary teachers can help accelerate the acquisition of new words. Over time, instruction across content areas can have a cumulative effect on prior gains in vocabulary and reading comprehension that may slip without constant reinforcement. Vocabulary instruction is typically restricted to language arts classroom teachers, who are chiefly responsible for implementing vocabulary programs. As a result, common school practices limit the amount of instructional time devoted to vocabulary instruction and are unlikely to accelerate the word knowledge of disadvantaged children (White & Kim, 2009).
To be effective, vocabulary instruction must provide both adequate definitions and illustrations of how words are used in natural contexts. However, good definitions and contexts are minimal requirements for good instruction, and by no means do they exhaust what can be put into a good vocabulary lesson. Methods of vocabulary instruction that most effectively improve comprehension of text containing the instructed words go far beyond providing definitions and contexts. Such methods can be referred to as “intensive vocabulary instruction” (Nagy, 1988).

Numerous approaches to vocabulary fall under this heading, and they all follow some common principles of effective vocabulary instruction. The first property of powerful vocabulary instruction is that it integrates instructed words with other knowledge. This emphasis in instruction is an outgrowth of schema theory. One classroom activity reflecting this emphasis would be creating semantic maps like Venn diagrams and brainstorming charts. Another principle is repetition. Being able to produce a correct definition for a word does not guarantee that one will remember its meaning quickly and effortlessly during reading. Vocabulary instruction must therefore ensure not only that readers know what the word means, but also that they have had sufficient practice to make its meaning quickly and easily accessible during reading. The last principle of effective vocabulary instruction is that it helps the learner to use the instructed words meaningfully. If students are expected to deal with instructed words in context, the words must be encountered in context during instruction, and if students are expected to learn to use words meaningfully in reading and writing, then instruction must include meaningful use of words (Nagy, 1988).

Those who learn more words almost undoubtedly encounter more words and receive more explanations of word meanings. This suggests that more could be done to ensure adequate vocabulary development through systematic exposure to two or three new words a day combined
with adequate explanation of these words and ample opportunities to use them. If vocabulary acquisition is largely sequential in nature, it would appear possible to identify that sequence and to ensure that children at a given vocabulary level have an opportunity to encounter words they are likely to be learning next, within a context that uses the majority of the words that they have already learned (Biemiller, 2001).

Increased vocabulary work should include the deliberate introduction of a wider range of vocabulary in the early primary years through oral sources, ensuring the coverage of about 4,000 root words by the end of second grade. In later elementary years, continued development will include adding another 500-750 root words a year. In addition, in the upper elementary grades, instruction is needed in word derivation as well as ways of inferring word meanings (Biemiller, 2001). Biemiller (2001) states that if we are serious about increasing standards and bringing a greater proportion of students to high levels of academic accomplishment, we cannot continue to leave vocabulary development to parents, chance, and highly motivated reading.

**Learning Word Meanings from Context.** Given the size of the task, teaching individual word meanings cannot, itself, produce large-scale vocabulary growth in school children, or make up for the deficiencies of students with inadequate vocabularies. If only a few hundred of the 3,000 words the average child learns in a year are learned in instruction specifically aimed at vocabulary, where are all the other words learned? A number of sources are possible. The speech of parents and peers, classroom lectures and discussions, school reading, free reading, and television are all possible sources. Speech of parents and peers may well be the most significant source of vocabulary for many children, but this factor is the least under the teacher’s control. Many believe that incidental learning of words from context while reading is, or at least can be, the major mode of vocabulary growth once children have really
begun to read (Robinson, 2005). It is clear that learning from context is a very important component of vocabulary instruction, but this means of learning is available only to the extent that children engage in meaningful reading and discussion (Adams, 1990).

Learning words meanings from oral context is also a major mode of vocabulary acquisition, especially in the preschool years. Many, if not most, of the thousands of words that children learn before they enter school are with without any explicit definition or explanation. When a child learns a word from oral context, there is also a rich extralinguistic context (the object named might be present). There are also clues from intonation and gesture that can make the context richer. In addition, the speaker will usually have some sensibility to gaps in the listener’s knowledge, and the listener can always ask questions if something isn’t understood. Written context will, therefore, usually not be as rich or helpful as oral context in providing information about the meanings of new words (Robinson, 2005).

Young children’s listening and speaking competence is in advance of their reading and writing competence. They can understand much more sophisticated content presented in oral language than they can read independently. Teachers need to take advantage of their listening and speaking competencies to enhance their vocabulary development and not hold back adding vocabulary to children’s repertoires until their word recognition becomes adequate. In the early grades, this is primarily done through the use of trade books that are read and discussed with the students (Beck, McKeown & Kucan, 2002).

Teaching of concepts and vocabulary through the use of context should also include oral-reading sessions where the teacher asks students to explain an unknown word by reading the sentence that contains the word, going back to a preceding sentence, and/or reading a sentence
that follows the one in which the unknown word is located. When students are grouped for learning vocabulary through context, everyone in the group should have opportunities to interact to probes aimed at getting meaning from context. While on occasion one student can be called on to give an answer to a question, in general, all students should be responding through such procedures as whispering an answer to another student in the group, jotting down key words called for, or holding a response card up when the signal is given to do so (Rowel, 1993).

Wide exposure to words is a powerful force for word learning, particularly for the development of oral vocabularies. For students of all ages, but particularly for preschoolers or students who are not secure in English, having lots of time for classroom talk is an essential aspect of encouraging informal word learning. Using activities such as show and tell at the lower levels and current events and cooperative grouping for older students, maximize the opportunities students have to hear and use language and development vocabulary. Use of good literature, repeated exposure, use in discussion and image making, and relation to first languages are all ways vocabulary from real-aloud books can find their way into students’ oral vocabularies. In addition to read-aloud sharing, classroom labeling is a good way to teach new vocabulary. Objects and situations in the classroom provide natural contexts for vocabulary learning (Blachowicz & Fisher, 1996).

Children who are good readers encounter greater amounts of text than do poor readers. Thus, better readers are exposed to more words and are able to access a greater number of words incidentally, making further reading easier. On the other hand, struggling readers begin with a smaller reading vocabulary, are exposed to less text, and encounter fewer words. This results in an ever-widening gap between good and poor readers. The difference in the number of words
acquired through context is a significant one. An accomplished reader will learn up to five times as many words through reading than will a struggling reader. For those students who learn nearly 5,000 new words simply by picking them up in the context of what they are reading, the additional 300-400 words they could gain through direct instruction would have less significant an effect than it would for those students whose incidental learning would normally insure an increase in reading vocabulary of approximately 1,000 words (Kuhn & Stahl, 1998).

**Repeated Exposure.** One principle of effective vocabulary learning is to provide multiple exposures to a word's meaning. There is great improvement in vocabulary when students encounter vocabulary words often (NRP, 2000). According to Stahl (2005), students probably have to see a word more than once to place it firmly in their long-term memories. "This does not mean mere repetition or drill of the word," but seeing the word in different and multiple contexts. In other words, it is important that vocabulary instruction provide students with opportunities to encounter words repeatedly and in more than one context (Diamond & Gutlohn, 2006). Vocabulary instruction should not only include exposure to new words, but also, activities for their repeated use are essential. The use of small groups and individual work in centers should be explored as possible methods for extending vocabulary instruction and providing repeated opportunities for exposure and practice (Park, 2009).

Repeated exposure in many contexts assists in word learning. Students learn new words better when they encounter them often and in various contexts. The more children see, hear, and work with specific words, the better they seem to learn them. When teachers provide extended instruction that promotes active engagement, they give students repeated exposure to new words.
When the students read those same words in their texts, they increase their exposure to the new words (Armbruster, Lehr & Osborn, 2006).

Assessment

Students commonly know words to varying degrees. They may have never seen or heard a word before, they may have heard or seen it, but only have a vague idea of what it means, or they may be very familiar with the meaning of the word and be able to use it accurately in their own speech and writing (Armbruster, Lehr & Osborn, 2006). Research suggests that, in general, knowing a word by sight and sound and knowing its dictionary definition are not the same as knowing how to use the word correctly and understanding it when it is heard or seen in various contexts. Knowing a word also implies knowing how that word relates to other knowledge (schema). The degrees of knowing a word are reflected in the precision with which we use a word, how quickly we understand a word, and how well we understand and use words in different modes and for different purposes (Lehr, Osborn & Hiebert, 2005).

Assessment of vocabulary is critical for identifying children at risk for reading problems and for designing appropriate instruction. The use of oral measures is essential. Tests that require reading or writing make it impossible to differentiate other problems children may have, such as difficulties in word decoding or spelling, from lack of vocabulary knowledge. Children with suspected learning disabilities should be individually assessed on measures that include both receptive and expressive oral vocabulary. Although the relationship of receptive vocabulary to reading comprehension seems obvious, expressive vocabulary appears to be an even stronger predictor of beginning reading achievement than is receptive vocabulary.
Therefore, both areas should be included in a comprehensive assessment (Vocabulary assessment and, 2010).

A number of standardized tests are available for assessing vocabulary. The *Iowa Tests of Basic Skills* contains several tests on vocabulary. The *Stanford Reading Diagnostic Test* has a test identified as an Auditory Vocabulary Test (Rowel, 1993). The *Brigance Diagnostic Comprehensive Inventory of Basic Skills* has a reading vocabulary comprehension assessment that consists of lists of words for each grade level and can be used as a rough placement device. The *Woodcock Reading Mastery Tests-Revised* has an interesting word comprehension test that includes subtests for antonyms, synonyms, and analogies. The *Peabody Picture Vocabulary Test-Revised* is a standardized individual test of auditory vocabulary (Blachowicz & Fisher, 1996). As in standardized tests in general, tests for assessment of vocabulary should have maximum flexibility as to when they are given, be one of several ways to assess vocabulary, and have meaningful follow up (Rowel, 1993). Most standardized reading tests include subsets of vocabulary and comprehension. The total reading score is usually a composite of the two (Johnson, 2001).

Standardized tests usually won’t help the teacher make instructional decisions, but informal vocabulary measures can yield important information. There are several ways in which teachers can assess word knowledge in their classrooms. They can assign specific words the students have been taught or have been reading to be used in an assigned piece of writing. They can give students passages from a selection in which key words have been omitted and replaced with a blank line to see if students can supply the missing words either from choices given or from memory. Teachers can observe their students’ use of new words in their speaking and writing. Teachers sometimes may want to construct a short test of “words of the week.”
The vocabulary gap that exists between low- and high-achieving students can be narrowed by selecting words for instruction and assessments in a more targeted and purposeful manner (Pearson, Hiebert, & Kamil, 2007). When designing vocabulary programs or interventions, assessing students’ vocabulary knowledge must be closely linked to each school’s instructional and curricular goals. Diagnostic measures of children’s vocabulary are a prerequisite for effective instruction (White & Kim, 2009).

Assessing vocabulary knowledge is crucial to targeting the words children need to know to do well in school (mostly tier 2 words). There are written and oral vocabulary measures that provide some meaningful evaluation of a child’s vocabulary, but written vocabulary assessments are limited, because they measure word knowledge through reading comprehension assessments or target words that do not give a real picture of the depth of a child’s actual vocabulary. When designing programs or interventions, assessing students’ vocabulary knowledge must be closely linked to each school’s instructional and curricular goals (White & Kim, 2009).

Common measures of vocabulary may not inform effective instruction for several reasons. Teachers often teach words that students already know or teach words that are disconnected from the school curriculum or content-area texts. A few written and oral vocabulary measures provide some meaningful evaluation of a learner’s word knowledge base, but written vocabulary assessments are limited because they measure word knowledge through reading comprehension assessments or target words that do not give a real window on a child’s actual vocabulary (White & Kim, 2009).

Systematic vocabulary instruction requires measures of students’ word knowledge. Best practices in measuring vocabulary include assessment of high-leverage words that are crucial for understanding academic text. Given their importance in the school curriculum, high-leverage
words should be assessed at the beginning and the end of the school year. In addition, good measurement examines children’s ability to use words in their writing. The assessment results should be routinely discussed and shared among all content area teachers (White & Kim, 2009).

**Summary**

Researchers have studied the vocabulary levels of students from different economic backgrounds (Dickinson & Tabors, 2001; Hart & Risley, 1995; Hoff 2003; Lucchese & Tamis-LeMonda, 2007; White & Kim, 2009), the effects of poverty on language development and academic growth (Hank & Deacon, 2008; White & Kim, 2009; Dickinson & Tabors, 2001; Lee, Grigg, & Donahue, 2007; Sinatra, 2008; White et. al., 1990; Hart & Risley, 1995; Juel et al., 2003; Biemiller, 2005), and effective vocabulary instruction (National Reading Panel, 2000; Lehr, Osborn & Hiebert, 2005; Hoyt, 2005; Kamil, Pearson, Birr-Moje & Afflerbach, 2011; Nagy, 1988; Marzano & Pickering, 2005; Temple, Ogle, Crawford & Freppon, 2005; Biemiller, 2003; Diamond & Gutlohn, 2006; Fien et al., 2011; Beck 2005; Brett, Rothlein, & Hurley, 1996; Penno, Wilkinson, & Moore, 2002); however, few studies have been conducted that examines the most effective instructional approach to teach vocabulary to those students from low-income and diverse backgrounds in order to close the achievement gap. This study sets out to determine if small group, direct vocabulary instruction is effective in closing this gap.
Chapter III: Methodology

Purpose

This study sought to ascertain the extent to which tri-weekly evidence-based vocabulary lessons implemented throughout the regular school day would increase children’s vocabulary, thus decreasing the vocabulary gap exhibited between low-income children and their more advantaged peers upon entering kindergarten. Low-income students were identified as those students qualifying for free or reduced lunch. This study focussed on using the evidence-based vocabulary lessons found in Judy Montgomery’s *The Bridge of Vocabulary*.

The central question that this study aimed to answer was. “Do the lessons found in *The Bridge of Vocabulary* help close the vocabulary gap that exists upon entering kindergarten between children living in poverty and their more advantaged peers?”

This study was based on the following three research questions and accompanying null hypotheses:

1. Do kindergarten students who receive small group direct vocabulary instruction from the lessons in *The Bridge of Vocabulary* make greater gains in vocabulary development than students receiving whole group vocabulary instruction from the adopted reading series?

   Null hypothesis: Kindergarten students who receive small group direct vocabulary instruction from the lessons in *The Bridge of Vocabulary* do not make greater gains in
vocabulary development than students receiving whole group vocabulary instruction from the adopted reading series.

2. Do low-income kindergarten students make greater gains in vocabulary development than middle-income students after receiving direct vocabulary instruction from the lessons in *The Bridge of Vocabulary*?

Null hypothesis: Low-income kindergarten students do not make greater gains in vocabulary development than middle-income students after receiving direct vocabulary instruction from the lessons in *The Bridge of Vocabulary*.

3. Do the low-income kindergarten students receiving direct vocabulary instruction from the lessons in *The Bridge of Vocabulary* make equal or greater gains in vocabulary development than the low-income kindergarten students receiving whole group vocabulary instruction from the adopted reading series?

Null hypothesis: Kindergarten students receiving small group direct vocabulary instruction from the lessons in *The Bridge of Vocabulary* do not make equal or greater gains in vocabulary development than the low-income kindergarten students receiving whole group vocabulary instruction from the adopted reading series.

**Participants**

The subjects of this study were kindergarten students at a suburban elementary school near a mid-sized city in the Midwest. The research school was a Title I school with an enrollment of 628. The average classroom had 24 students per teacher. The demographics of the school are included in the table below.
Table 2: Demographics of Research School

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
<th>Free or Reduced Lunch</th>
<th>Paid Lunch</th>
<th>White</th>
<th>Hispanic</th>
<th>Multiracial</th>
<th>Special Education</th>
<th>ESL</th>
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</thead>
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<tr>
<td>All</td>
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<td>50%</td>
<td>63%</td>
<td>37%</td>
<td>70%</td>
<td>24%</td>
<td>6%</td>
<td>11%</td>
<td>25%</td>
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</tbody>
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Table 3: Demographics of Study Participants

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<thead>
<tr>
<th></th>
<th>Total #</th>
<th>Male</th>
<th>Female</th>
<th>White</th>
<th>Hispanic</th>
<th>Mixed Race</th>
<th>Free or Reduced Lunch</th>
<th>Paid Lunch</th>
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</thead>
<tbody>
<tr>
<td>All Participants</td>
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<tr>
<td>August</td>
<td>77</td>
<td>51%</td>
<td>49%</td>
<td>70%</td>
<td>23%</td>
<td>7%</td>
<td>77%</td>
<td>23%</td>
</tr>
<tr>
<td>January</td>
<td>83</td>
<td>53%</td>
<td>47%</td>
<td>71%</td>
<td>22%</td>
<td>7%</td>
<td>69%</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>August</td>
<td>31</td>
<td>52%</td>
<td>48%</td>
<td>71%</td>
<td>23%</td>
<td>6%</td>
<td>73%</td>
<td>27%</td>
</tr>
<tr>
<td>January</td>
<td>34</td>
<td>52%</td>
<td>48%</td>
<td>71%</td>
<td>24%</td>
<td>5%</td>
<td>65%</td>
<td>35%</td>
</tr>
<tr>
<td>Experiment Group</td>
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<td></td>
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</tr>
<tr>
<td>August</td>
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<td>70%</td>
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<td>6%</td>
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</tr>
<tr>
<td>January</td>
<td>49</td>
<td>53%</td>
<td>47%</td>
<td>71%</td>
<td>19%</td>
<td>10%</td>
<td>71%</td>
<td>29%</td>
</tr>
</tbody>
</table>

The sample included two kindergarten classrooms acting as the experimental group that received instruction from the vocabulary lessons found in *The Bridge of Vocabulary* and another two kindergarten classrooms serving as the control group. The population was not a random
sample but rather a sample of convenience. Specific demographics about the kindergarten students participating in the study are included in the table above. See table 3.

The researcher instructed all participants in the experimental group. The reading block was set up in the two experimental classrooms in a manner in which the students switched rooms and teachers for part of their instruction. The researcher taught one class of students, then the students switched rooms and the researcher then taught the other class of students. This teacher was a white female with nine years of teaching experience in kindergarten and primary grades. The researcher had taught the lessons from the lower-primary section of the vocabulary intervention previously.

There were two teachers instructing students in the control group. Both control-group teachers were white females. Teacher number one had six years of teaching experience in kindergarten and primary grades and had 12 kindergarten students participating in this study. Teacher number two had eight years of teaching experience in kindergarten and had 22 kindergarten students participating in this study. They have both used the adopted reading series (MacMillan/McGraw-Hill) for vocabulary instruction in kindergarten for the last five years.

**Instrumentation**

The assessment instruments that were used in this study are the Peabody Picture Vocabulary Test, Fourth Edition (PPVT-4) and the Expressive Vocabulary Test, Second Edition (EVT-2). The PPVT-4 and EVT-2 are norm-referenced assessments. The PPVT-4 has been co-normed with the EVT-2 to provide a comprehensive assessment of expressive and receptive vocabulary.

The PPVT-4 tests an individual’s ability to match a spoken word with an image of an object, action, or concept. It is an individually administered, norm-referenced assessment of how
well persons aged 2 years to over 90 years can match a word that is heard in English to objects, actions, or concepts presented in full-color pictures in a multiple-choice format. The test consists of 298 items presented in a developmental sequence that reflects the concepts with which people currently have experience through home, school, or media.

The examinee indicates by pointing or saying the correct color picture out of four presented that matches the word spoken by the examiner. Age-related starting points and ceilings ensure that only a subtest of items is administered. For example, a student who is five years old would begin the assessment at item 30 compared to a two-year-old beginning at item number one. When an examinee incorrectly answers eight items in a set, that is considered the ceiling and the assessment ends. The PPVT-4 is untimed and can be administered in about a 10-20 minutes. Scoring is straightforward, generally taking less than five minutes. Raw scores are tabulated and converted into standard scores, percentiles, normal curve equivalents, stanines, approximate age and grade equivalents, and growth scale values. The PPVT-4 test provides extremely reliable scores, with all reliability and validity coefficients in the .90s range (Dunn & Dunn, 2007).

The EVT-2 tests an individual’s ability to name, with one word, objects, actions, and concepts when presented with color illustrations. The tests target the ability to understand the meaning of words spoken and name what is depicted on a test plate without context. The EVT-2 quickly assesses expressive vocabulary with a test that requires no reading or writing. It is an individually administered, norm-referenced assessment of how well persons aged 2 years to over 90 years can name in English, the objects, actions, or concepts presented in full-color pictures. The test consists of 190 items presented in developmental sequence that reflects the concepts with which people currently have experience through home, school, or media. The EVT-2 retains
the use of age-related starting points and ceilings, reached when the examinee makes a set number of consecutive errors, ensure that only a subtest of items is administered. The EVT-2 is untimed and can be administered in approximately 10-20 minutes. Scoring generally takes less than five minutes. Raw scores are tabulated and converted into standard scores, percentiles, normal curve equivalents, stanines, approximate age and grade equivalents, and growth scale values. The EVT-2 test provides extremely reliable scores, with all reliability and validity coefficients in the .90s range (Dunn & Dunn, 2007).

**Procedures**

1. All kindergarten students were given the Peabody Picture Vocabulary Test, Fourth Edition and Expressive Vocabulary Test, Second Edition at the beginning of the kindergarten school year, August, as part of a screening evaluation to determine baseline vocabulary levels.
2. Parent consent (Appendix A) was obtained for all participants in this study.
3. The Peabody Picture Vocabulary Test, Fourth Edition and Expressive Vocabulary Test, Second Edition were administered to all participants again in January before the intervention began.
4. The scores from January were compared to the scores from August to identify these participant’s vocabulary growth patterns that typically occurred throughout the first semester of kindergarten, prior to the addition of the small-group direct-instruction vocabulary intervention.
5. The January data was used as a pre-test to compare the vocabulary levels of the participants before the intervention began until the completion of the study in April.
6. All participants were also given an informal vocabulary assessment (Appendix D). This assessment provided another source of data about the vocabulary growth of kindergarten students in both the experimental and control groups during the intervention. The researcher created this
assessment including vocabulary terms from the kindergarten reading series, the intervention lessons, and the Kindergarten Common Core standards. Approximately 50% of the assessment items came from vocabulary terms taught in the reading series from January to May and 50% of the assessment items were created by looking at the vocabulary concepts that were taught in the intervention lessons. The researcher then checked to make sure that all vocabulary terms and concepts on the assessment were also a part of the Kindergarten Common Core Standards.

7. Students in the experimental group received instruction through participation in the lessons and vocabulary building activities found in the Lower Elementary section of the book *The Bridge of Vocabulary* by Judy K. Montgomery. This was done in small group settings of five to seven students. Students in the class participated in the normal routine of moving through reading stations with the assistance of a teaching assistant and a parent volunteer, and one of the reading stations was the vocabulary intervention. All students received the vocabulary instruction three times per week within the small group settings. Each lesson took 15 minutes and was conducted by the researcher. This intervention took place in 36 lessons and was implemented in place of the vocabulary lessons from the adopted reading series. The researcher selected the 36 lessons, from a possible 54, by choosing the lessons that best aligned with the Kindergarten Common Core Standards.

Lessons varied as to the specific vocabulary skill on which they focused; however, every lesson centered on a specific vocabulary topic. Topics found in the Lower Elementary lessons included action words, antonyms and synonyms, classification and categorization, descriptions, meaning and usage, nouns, position words, rhyming words, shapes, sound awareness, storytelling, and word play. All activities were teacher-led, guided practice. For all of these
teacher-led activities, directions were provided for the instructor. Correct responses were listed on the activity pages for the teacher’s convenience.

*The Bridge of Vocabulary* was intended to act as a bridge between research and practice. Each activity in the book contained an Evidence Base statement, a short statement indicating how the research informs the practice described in the activity. Each activity also included a Standards Link that showed how the activity relates to a specific English Language Arts standard. Most lessons included some type of visual and/or hands-on component to the activity. The materials for each lesson could be found and printed from the companion CD-ROM. These included picture cards, word cards, activity continuation pages, student sheets, and word webs. Most lessons also included a Group Modification activity that could be used if there was extra time after the primary lesson. These consisted primarily of oral word games.

High quality implementation is more likely when core program components are defined in advance and then systematically monitored to ensure compliance (CSAP, 2001; Gresham et al., 1993). The researcher spent time reading the book, *The Bridge of Vocabulary*, and the intervention components were checked as a part of *Adherence* on the fidelity checklist. The researcher has also previously taught lessons from the lower primary section of this book with second grade students.

Mihalic (2004) states that those implementing a program should be provided with information to help them understand the program theory, because thorough understanding of how and why a program works will enhance fidelity. *The Bridge of Vocabulary* used evidence-based activities for each lesson. The author also included a chapter with extensive information about vocabulary research and clearly described how to use the book. The researcher read this
research background as well as the objective, standards link, and evidence-base for each of the lessons that were taught.

Monitoring to evaluate adherence to the intervention should be conducted at the beginning of implementation and over the course of the intervention in order to prevent drift from the protocol (Borrelli, 2011). The researcher addressed concerns of fidelity over time by using the fidelity checklist (Appendix C) after each intervention session and by having a colleague outside the study assess the treatment fidelity weekly by viewing video recordings of the lessons and completing the same fidelity checklist. By evaluating treatment fidelity consistently throughout the twelve weeks, the researcher was able to immediately recognize any inconsistencies in fidelity and make needed adjustments. When analyzing the post-test data, the researcher was able to refer to these checklists to examine for any potential inconsistencies in treatment fidelity between sessions and small groups.

8. Students in the control group received the five to seven minute vocabulary lesson from the adopted reading series, five days a week. The two teachers providing instruction for the control groups had taught the vocabulary lessons found in the adopted kindergarten reading series for five years. These lessons introduced two new words a week and included activities such as having the students use the words in a sentence, sing a song or chant that included the words, have a discussion about the meaning of the words, and find the words in a big book that they were reading. The control groups only received the vocabulary instruction from the adopted reading series and no additional vocabulary instruction or interventions were used.

Borrelli (2011) stated that if treatment fidelity is only measured in the experimental group, it is difficult to determine whether or not the control group received some other intervention component, and this could affect the outcomes and reduce the effect size between
the treatment and control groups. For this reason, the researcher conducted fidelity checks on the two classrooms that comprise the control group. This was done by reviewing the control groups’ teachers’ daily lesson plans to monitor planned vocabulary instruction, and conducting random observations during their reading blocks to ensure that the students in the control groups are only receiving vocabulary instruction through the adopted reading series lessons and not getting any additional vocabulary instruction or interventions.

9. The Peabody Picture Vocabulary Test, Fourth Edition and Expressive Vocabulary Test, Second Edition was administered to all participants again after the completion of the 36-lesson vocabulary intervention, and the pre-test and post-test results were compared. The data were examined to see if there was a difference in the growth in scores of the students who qualify for free or reduced lunch when compared with those students who pay for lunch. This was done for both the control and experimental groups, and then they were compared.

10. The informal vocabulary assessment (Appendix D) was also given to all participants again at the completion of the intervention. These scores were compared to the informal pre-test results and examined to see if there was a difference in the growth in scores between the low-income students and their more advantaged peers.

**Research Design**

This study used a repeated measures design, comparing four groups. There were free/reduced lunch and paid lunch groups in both the experimental and control groups. Specifically, this study examined the growth in test scores for the free/reduced lunch students compared to the paid lunch students in both the control and experimental groups.

Minke (1997) stated that repeated measures designs are characterized by having more
than one measurement of at least one given variable for each subject. A well-known repeated measures design is the pretest, posttest experimental design, with intervening treatment. Repeated measures experimental designs offer researchers opportunities to study research effects while controlling for subjects. These designs offer greater statistical power relative to sample size. By collecting data from the same participants under repeated conditions the individual differences can be eliminated or reduced as a source of between group differences.

Data Analysis

This study examined whether the students from poverty made greater gains by analyzing the difference on the two measures and testing for significance. The data collected in this study were analyzed using the SPSS computer program. A one-way analysis of variance (ANOVA) was used to test the equality of means for the research questions. An alpha value of \( p < 0.016 \) was used. This was determined by dividing 0.05 by 3, which was the number of one-way ANOVAs conducted on the data. This allowed for higher degrees of freedom. The independent variable was Group/Lunch. This variable classified the participants as either Experimental Group Free or Reduced Lunch, Experimental Group Paid Lunch, Control Group Free or Reduced Lunch, or Control Group Paid Lunch. The dependent variables were Difference between January and April Receptive Scores, Difference between January and April Expressive Scores, and Difference between January and April Informal Assessment Scores.
Chapter IV: Results

Children from poverty enter kindergarten significantly behind their peers in their vocabulary development (Dickinson & Tabors, 2001; Hart & Risley, 1995; Hoff 2003). As they proceed through kindergarten, first and second grades, this gap in language and vocabulary widens (Lucchese & Tamis-LeMonda, 2007; White & Kim, 2009). If students find themselves behind in vocabulary knowledge when they reach the third grade, they have significant problems reading and comprehending content knowledge (McKeown & Curtis, 1987; Chall & Jacobs, 2003). Hence, educators need to examine interventions and instructional methods that address this vocabulary and language deficit. It is important to address this concern early, before students enter the intermediate grades where the text becomes more complex.

The purpose of this study was to determine the extent to which tri-weekly evidence-based vocabulary lessons implemented throughout the regular school day would increase kindergarten students’ expressive and receptive vocabulary development, thus decreasing the vocabulary gap exhibited between low-income children and their more advantaged peers upon entering kindergarten. This study used the evidence-based vocabulary lessons found in Judy Montgomery’s *The Bridge of Vocabulary*.

Research Questions

The central question that this study aimed to answer was. “Do the lessons found in *The Bridge of Vocabulary* help close the vocabulary gap that exists upon entering kindergarten between children living in poverty and their more advantaged peers?”
This study was based on the following three research questions and accompanying null hypotheses:

1. Do kindergarten students who receive small group direct vocabulary instruction from the lessons in *The Bridge of Vocabulary* make greater gains in vocabulary development than students receiving whole group vocabulary instruction from the adopted reading series?
   
   Null hypothesis: Kindergarten students who receive small group direct vocabulary instruction from the lessons in *The Bridge of Vocabulary* do not make greater gains in vocabulary development than students receiving whole group vocabulary instruction from the adopted reading series.

2. Do low-income kindergarten students make greater gains in vocabulary development than middle-income students after receiving direct vocabulary instruction from the lessons in *The Bridge of Vocabulary*?
   
   Null hypothesis: Low-income kindergarten students do not make greater gains in vocabulary development than middle-income students after receiving direct vocabulary instruction from the lessons in *The Bridge of Vocabulary*.

3. Do the low-income kindergarten students receiving direct vocabulary instruction from the lessons in *The Bridge of Vocabulary* make equal or greater gains in vocabulary development than the low-income kindergarten students receiving whole group vocabulary instruction from the adopted reading series?
   
   Null hypothesis: Kindergarten students receiving small group direct vocabulary instruction from the lessons in *The Bridge of Vocabulary* do not make equal or greater
gains in vocabulary development than the low-income kindergarten students receiving whole group vocabulary instruction from the adopted reading series.

**Previous Data**

All kindergarten students were given the Peabody Picture Vocabulary Test, 4th Edition (PPVT-4) and Expressive Vocabulary Test, 2nd Edition (EVT-2) as a part of their kindergarten screening process at the beginning of August. The standard scores were analyzed by conducting a one-way ANOVA to determine the vocabulary levels of the students by lunch status as they entered kindergarten. Kindergarten students who qualified for paid lunch entered kindergarten with significantly greater scores on the receptive vocabulary test (PPVT-4) than the kindergarten students who qualified for free or reduced lunch \([F(1, 75) = 22.46, p < .05]\). The students who paid for lunch also had significantly greater scores on the expressive vocabulary test (EVT-2) than the students who qualified for free or reduced lunch \([F(1, 75) = 19.73, p < .05]\). The August test scores indicated that the students who qualified for free or reduced lunch entered kindergarten with significantly lower vocabulary skills than their more advantaged peers in both their expressive and receptive vocabulary. See Figure 1.
Students who qualified for free or reduced lunch had a mean expressive vocabulary score of 86.25 and a mean receptive vocabulary score of 86.89. Whereas students who paid for lunch entered kindergarten with significantly higher means, scoring 102.18 on the expressive vocabulary assessment and 100.55 on the receptive vocabulary assessment. This data reflects previous research (Dickinson & Tabors, 2001; Hart & Risley, 1995; Hoff, 2003) about the vocabulary gap that exists between low-income and middle-income students entering kindergarten. See table 4.
Table 4: Group Means on Expressive (EVT-2) and Receptive (PPVT-4) Vocabulary Assessments for Students Entering Kindergarten in August

<table>
<thead>
<tr>
<th></th>
<th>Expressive</th>
<th>Receptive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Group Total</td>
<td>96.24</td>
<td>94.03</td>
</tr>
<tr>
<td>Control Group Free/Reduced</td>
<td>92.80</td>
<td>91.40</td>
</tr>
<tr>
<td>Control Group Paid</td>
<td>103.89</td>
<td>99.89</td>
</tr>
<tr>
<td>Experimental Group Total</td>
<td>87.52</td>
<td>88.83</td>
</tr>
<tr>
<td>Experimental Group Free/Reduced</td>
<td>82.51</td>
<td>84.31</td>
</tr>
<tr>
<td>Experimental Group Paid</td>
<td>101.00</td>
<td>101.00</td>
</tr>
</tbody>
</table>

Data Analysis Procedures

The assessment instruments used in this study were the Peabody Picture Vocabulary Test, Fourth Edition (PPVT-4) and the Expressive Vocabulary Test, Second Edition (EVT-2). The PPVT-4 and EVT-2 are norm-referenced assessments. The PPVT-4 has been co-normed with the EVT-2 to provide a comprehensive assessment of expressive and receptive vocabulary. The PPVT-4 and EVT-2 tests provide extremely reliable scores, with all reliability and validity coefficients in the .90s range (Dunn & Dunn, 2007). All participants were also given an informal vocabulary assessment (Appendix D). The researcher created this assessment including vocabulary terms from the kindergarten reading series, the intervention lessons, and the Kindergarten Common Core standards.
The researcher administered all three of the assessments to all study participants in January and again at the end of April. This data was then analyzed using the SPSS computer program. A one-way analysis of variance (ANOVA) was used to test the equality of means for the research questions. An alpha value of $p < 0.016$ was used. This was determined by dividing 0.05 by 3, which was the number of one-way ANOVAs conducted on the data. This allowed for higher degrees of freedom. The independent variable was Group/Lunch. This variable classified the participants as either Experimental Group Free or Reduced Lunch, Experimental Group Paid Lunch, Control Group Free or Reduced Lunch, or Control Group Paid Lunch. The dependent variables were *Difference between January and April Receptive Scores*, *Difference between January and April Expressive Scores*, and *Difference between January and April Informal Assessment Scores*.

**Results**

The first research question for this study was, “Do kindergarten students who receive small group direct vocabulary instruction from the lessons in *The Bridge of Vocabulary* make greater gains in vocabulary development than students receiving whole group vocabulary instruction from the adopted reading series?” Students in the experimental group that received small group direct instruction from the lessons in *The Bridge of Vocabulary* made greater gains in their vocabulary development than the students in the control group that received instruction from the adopted reading series; therefore, we can reject the null hypothesis.

The students in the experimental group exhibited a larger increase in their vocabulary scores from January to April compared to the students in the control group who did not receive the vocabulary intervention. This higher growth rate was demonstrated in the expressive, receptive, and informal assessments. See tables 5 and 6.
A one-way between-subjects ANOVA was conducted to compare the effect of the vocabulary intervention on receptive, expressive, and informal vocabulary scores between the experimental and control groups. For the difference in scores on receptive language, the groups were significantly different \[ F(1, 81) = 31.30, p < 0.016 \]. The same significant group difference was found for difference scores on expressive language, \[ F(1, 80) = 26.08, p < 0.016 \], and the informal vocabulary assessment \[ F(1, 81) = 50.24, p < 0.016 \].

The second research question was, “Do low-income kindergarten students make greater gains in vocabulary development than middle-income students after receiving direct vocabulary
instruction from the lessons in *The Bridge of Vocabulary*?” Kindergarten students in the experimental group that receive free or reduced lunch made greater gains in their vocabulary development than the kindergarten students in the experimental group that pay for lunch; however, it was not found to be significant (p < 0.016) on any of the three assessments. Since no significance was found, we accept the null hypothesis. See tables 7 and 8.

### Table 7: Experimental Group Means by Lunch Status on Expressive (EVT-2), Receptive (PPVT-4), and Informal Vocabulary Assessments

<table>
<thead>
<tr>
<th></th>
<th>January</th>
<th>April</th>
<th>January</th>
<th>April</th>
<th>January</th>
<th>April</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Expressive</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental Group</td>
<td>93.26</td>
<td>98.23</td>
<td>91.25</td>
<td>98.69</td>
<td>25.86</td>
<td>38.50</td>
</tr>
<tr>
<td>Free/Reduced</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td>110.00</td>
<td>112.92</td>
<td>108.54</td>
<td>114.62</td>
<td>31.08</td>
<td>41.23</td>
</tr>
<tr>
<td><strong>Receptive</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Free/Reduced</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Informal</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Free/Reduced</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 8: Experimental Group Mean Change by Lunch Status on Expressive (EVT-2), Receptive (PPVT-4), and Informal Vocabulary Assessments

<table>
<thead>
<tr>
<th></th>
<th>January - April</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Expressive</strong></td>
<td></td>
</tr>
<tr>
<td>Experimental Group</td>
<td>+4.97</td>
</tr>
<tr>
<td>Free/Reduced</td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td>+2.92</td>
</tr>
<tr>
<td><strong>Receptive</strong></td>
<td></td>
</tr>
<tr>
<td>Experimental Group</td>
<td>+7.44</td>
</tr>
<tr>
<td>Free/Reduced</td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td>+6.07</td>
</tr>
<tr>
<td><strong>Informal</strong></td>
<td></td>
</tr>
<tr>
<td>Experimental Group</td>
<td>+12.64</td>
</tr>
<tr>
<td>Free/Reduced</td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td>+10.15</td>
</tr>
</tbody>
</table>
The final research question for this study was, “Do the low-income kindergarten students receiving direct vocabulary instruction from the lessons in *The Bridge of Vocabulary* make equal or greater gains in vocabulary development than the low-income kindergarten students receiving whole group vocabulary instruction from the adopted reading series?” The free or reduced lunch experimental group students that received small group direct instruction from the lessons in *The Bridge of Vocabulary* made greater gains in their vocabulary development than the free or reduced lunch students in the control group that received instruction from the adopted reading series; therefore, we can reject the null hypothesis.

The free or reduced lunch students in the experimental group demonstrated a larger increase in their vocabulary scores from January to April compared to the free or reduced lunch students in the control group who did not receive the vocabulary intervention. This higher growth rate was demonstrated in the expressive, receptive, and informal assessments. See tables 9 and 10.

<table>
<thead>
<tr>
<th>Table 9: Group/Lunch Means on Expressive (EVT-2), Receptive (PPVT-4), and Informal Vocabulary Assessments, January - April</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
</tr>
<tr>
<td>Expressive</td>
</tr>
<tr>
<td>Control Group Free/Reduced</td>
</tr>
<tr>
<td>Experimental Group Free/Reduced</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 10: Average Group/Lunch Growth in Expressive (EVT-2), Receptive (PPVT-4), and Informal Vocabulary, January - April</th>
</tr>
</thead>
</table>

A one-way between-subjects ANOVA was conducted to compare the effect of the vocabulary intervention on receptive, expressive, and informal vocabulary scores between the free/reduced lunch students in the experimental and control groups. The ANOVA showed significance \[ F(3, 79) = 10.38, p < 0.016 \] between Group/Lunch for the variable of Difference between January and April Receptive Scores. The ANOVA showed significance \[ F(3, 78) = 9.85, p < 0.016 \] between Group/Lunch for the variable of Difference between January and April Expressive Scores. The ANOVA showed significance \[ F(3, 79) = 17.52, p < 0.016 \] between Group/Lunch for the variable of Difference between January and April Informal Assessment Scores.

Post hoc comparisons using the Tukey HSD test indicated that the mean score for free/reduced lunch students in the experimental group was significantly higher (\( p = .000 \)) than the mean score for free/reduced lunch students in the control group for all three vocabulary assessments. The mean score for free/reduced lunch students in the experimental group for the variable of Difference between January and April Receptive Scores (\( M = 7.44, SD = 6.77 \)) was significantly higher than the mean score for the free/reduced lunch students in the control group (\( M = -0.95, SD = 6.29 \)). The mean score for free/reduced lunch students in the experimental group...
group for the variable of *Difference between January and April Expressive Scores* (M = 4.97, SD = 4.80) was significantly higher that the mean score for free/reduced lunch students in the control group (M = -1.40, SD = 5.27). The mean score for free/reduced lunch students in the experimental group for the variable of *Difference between January and April Informal Assessment Scores* (M = 12.63, SD = 4.77) was significantly higher than the mean score for the free/reduced lunch students in the control group (M = 3.81, SD = 6.76). These results suggest that the free/reduced lunch students in the experimental group made significantly greater gains in their vocabulary development than the free/reduced lunch students in the control group.

**Limitations**

One limitation of this study was having a small sample size. This study examined four kindergarten classrooms (two as the experimental group and two as the control group) with a total of 83 participants. This could have decreased the statistical power of the outcomes and limited the ability to make generalizations about the results. The length of the study could also be a limitation. The intervention took place for 12 weeks, and might have produced more significant outcomes if it were a longer-term study. Another limitation might be that this study primarily looked at the differences in vocabulary between low-income students and their more advantaged peers; however, the researcher did not control for other variables, such as students with disabilities and students who speak English as a second language. Finally, no students were excluded from this study; therefore, the ESL population could be an outlier. All participants in this study who were identified as ESL also qualified for free or reduced lunch. Since research has shown that students who are English Language Leaners have lower vocabulary knowledge (Carlo et. al., 2004), this may have affected the significance of the free/reduced lunch students’ vocabulary growth.
Summary

In summary, students in the experimental group who received small group direct vocabulary instruction from the lessons in *The Bridge of Vocabulary* made greater gains in both their receptive and expressive vocabularies than the students in the control group who received vocabulary instruction from the adopted reading series. This higher amount of receptive and expressive vocabulary growth was also exhibited in low-income students who received the intervention compared to the low-income students who received the normal instruction. The results of the ANOVAs suggested that the effects of the vocabulary intervention on all students were highly significant.
Chapter V: Discussion and Conclusions

The purpose of this study was to determine the extent to which tri-weekly evidence-based vocabulary lessons implemented during the regular school day would increase kindergarten students’ expressive and receptive vocabulary development, thus decreasing the vocabulary gap exhibited between low-income children and their more advantaged peers upon entering kindergarten. This study used the evidence-based vocabulary lessons found in Judy Montgomery’s *The Bridge of Vocabulary* as the intervention for the students in the experimental group.

The central question that this study aimed to answer was, “Do the lessons found in *The Bridge of Vocabulary* help close the vocabulary gap that exists upon entering kindergarten between children living in poverty and their more advantaged peers?” This study was based on the following three research questions:

1. Do kindergarten students who receive small group direct vocabulary instruction from the lessons in *The Bridge of Vocabulary* make greater gains in vocabulary development than students receiving whole group vocabulary instruction from the adopted reading series?
2. Do low-income kindergarten students make greater gains in vocabulary development than middle-income students after receiving direct vocabulary instruction from the lessons in *The Bridge of Vocabulary*?
3. Do the low-income kindergarten students receiving direct vocabulary instruction from the lessons in *The Bridge of Vocabulary* make equal or greater gains in vocabulary development than the low-income kindergarten students receiving whole group vocabulary instruction from the adopted reading series?

The students in the experimental group, who received vocabulary instruction from the lessons in *The Bridge of Vocabulary*, made significantly greater gains in both their receptive and expressive vocabularies than the students in the control group. More specifically, the students who qualified for free or reduced lunch in the experimental group also made significantly greater gains in receptive and expressive vocabulary than the students in the control group that qualified for free or reduced lunch. Experimental group students made significantly greater gains on the informal assessment as well, which contained vocabulary terms from the reading series and the intervention lessons.

Low-income students made greater vocabulary gains after receiving the vocabulary intervention than both the low-income and middle-income students who received instruction from the reading series. The low-income students receiving the intervention did not, however, make greater gains than the middle-income students receiving instruction from the intervention. This indicates that the intervention was effective in increasing the vocabulary development of students from poverty, but they did not “catch up” to their more advantaged peers since their gains were equal.

**Discussion**

According to a study by Beck, McKeown & Kucan (2002), vocabulary interventions that have demonstrated promising effects on comprehension have three main characteristics: (a) they
include both definitional and instructional information of words, (b) they encourage deep processing of words, and (c) they provide multiple exposures to words. There are several possible explanations for the success of the vocabulary intervention used in this study, which relate to Beck, McKeown, and Kucan’s study, including: lesson length, which provided opportunities for discussion and encouraged deep processing of words; instructional approaches; and small group instruction. Each of these will be addressed below.

**Lesson Length.** One possible explanation for this success could be the amount of time spent on vocabulary instruction. The students in the control group received vocabulary instruction from the adopted reading series (MacMillan/McGraw-Hill). The vocabulary lessons lasted five to eight minutes and took place five days a week. The students were exposed to the vocabulary everyday, however it was for a short amount of time. Students in the experimental group received vocabulary instruction three days a week but for 15 minutes at a time. Even though the total amount on time spent on vocabulary instruction per week was very similar between the two groups, the longer lesson length in the experimental group provided students with more time during each lesson to gain a deeper understanding of the meanings and have repeated exposure to the new words.

Beck, McKeown & Kucan (2002) found that effective vocabulary instruction requires teachers to create many opportunities for students to learn words, related concepts, and their meanings. They stated that exposing students to words at the surface level is not enough, and vocabulary instruction should provide ample time and learning opportunities for students to gain a deeper understanding of new words.

**Instructional Approaches.** The adopted reading series vocabulary lessons and the lessons used in the intervention also differed in their instructional techniques. This may have
been a factor in the difference in vocabulary growth. The control group teachers introduced two new words a week. Instructional strategies included verbally giving the definition and then having the students use the words in a sentence, sing a song or chant that included the words, have a discussion about the meaning of the words, and find the words in a big book that they were reading.

The experimental group lessons focused more on vocabulary concepts rather than specific words. These lessons introduced several new terms related to a certain concept, and the teacher talked about their definitions as she showed the students visual representations of the words. Every lesson in the intervention included some sort of visual display. After introducing the meanings, the lessons included opportunity for practice and repeated exposure by incorporating discussion within games that were played with picture cards, objects, and movement. The students were able to physically manipulate the picture cards, objects, or their own bodies and talk about the terms and meanings while playing the vocabulary games within each lesson.

For example, one week the control group teachers introduced the words *seed* and *roots*, and they reviewed and practiced the meanings of these two words all week by repeating definitions, using the words in sentences, and reading the words in a poem. The same week the experimental group lessons focused on the concept of opposites. The students receiving the intervention had multiple exposures throughout the week of terms within the category of opposites (narrow/thick, dark/light, empty/full, etc.).

The control group teachers’ vocabulary instruction focused mostly on giving definitions. Diamond and Gutlohn (2006) state that effective vocabulary instruction often does not begin with a definition, for the ability to give a definition is often the result of knowing what the word
Rich and robust vocabulary instruction goes beyond definitional knowledge; it gets students actively engaged in using and thinking about word meanings and in creating relationships among words. Research suggests that students should be provided with rich vocabulary instruction, which includes such things as questioning, clarifying, repeating, pointing to words, supplying examples, and providing definitions in words that a young child can understand. There is agreement by many researchers that, in order for students to fully comprehend a word, the instructional encounters provided by educators must be rich, interactive, and multi-faceted (Beck 2005; Brett, Rothlein, & Hurley, 1996; Penno, Wilkinson, & Moore, 2002). Researchers advocate active involvement on the part of the learner. Several studies have shown that when students are active participants in vocabulary instruction, more vocabulary words are learned (Hargrave 2000; Penno, Wilkinson, & Moore, 2002; Senechal, 1995).

The new words that the experimental group students learned were often grouped by and connected to vocabulary concepts (like position words or opposites). Concept sorts have been found to be an effective strategy for promoting acquisition of new vocabulary in kindergarten children, and teaching vocabulary embedded within the concept of categories has been shown to be beneficial to vocabulary growth (Carpenter, 2011). Educators are not in the position to teach the sheer number of specific words struggling readers need to know to access school texts, participate in academically productive discussions, or produce academic writing. Therefore, it is paramount to target the kinds of words that students are likely to encounter in textbooks and on tests and explicitly teach these across content areas (White & Kim, 2009).

**Small Group Instruction.** A final possible variable that may have contributed to the difference in vocabulary growth between the groups may have been whole group versus small group instruction. Students in the control group received daily vocabulary instruction in a whole
group setting. Students were normally seated together on the floor, and the teacher stood or sat in front of them and provided direct instruction verbally. During observations of the control group lessons, the researcher observed several students not engaged in the lesson. Students in the experimental group received instruction in a small group setting. Group sizes ranged from 5-7 students. The students sat around a half-circle table and the teacher sat on the other side facing them. This made it possible for the teacher to keep them engaged in the lesson at all times.

Small-group vocabulary instruction has been found to be a promising tool in closing the vocabulary achievement gap for students at risk for comprehension difficulties (Baker, Fien, & Baker, 2010; Coyne, McCoach, & Kapp, 2007). Small-group instruction enhances the vocabulary knowledge of students identified with low vocabulary and language skills (Fien, et al., 2011), and children have been found to be more on task during small-group instruction than in whole-group settings (Hart, Massetti, & Fabiano, 2011).

Implications for practice

While we do not know for sure why the experimental group was more successful, we can speculate about what might be helpful, based on the differences in the instructional approaches between the two groups. As discussed above, there are three possible explanations for the success of the vocabulary intervention including lesson length, instructional approaches, and providing instruction in small groups. In light of this, the following implications relate to the explanations.

Because of the importance of lesson length, teachers of young children need to make vocabulary a priority in daily instruction. We know that vocabulary is highly connected to comprehension (Freebody & Anderson, 1979; NRP, 2000; Pressley, 2000; Storch & Whitehurst, 2003), yet vocabulary is often a very small portion of the reading block in primary classrooms
and in popular basal reading series. Teachers should plan time not only to explicitly teach new words, but also time for students to discuss and practice their new knowledge. Students will develop vocabulary by hearing/reading new words in context and through social interactions; however, it is important for teachers to set aside time where they can focus only on vocabulary. The findings of this study indicated that larger amounts of focused time fewer days a week were more favorable to vocabulary growth than instruction fives days a week for less time.

Since we know of the importance of connecting new words to concepts, it is necessary to go beyond that. Many primary teachers teach new vocabulary by giving definitions and having students use the new words in sentences. This may be a good place to start, but the instruction must then to go deeper. Many students will not retain these new words and meanings if they are not given opportunities for practice, discussion, and repeated exposure. Teachers should design engaging vocabulary lessons in which students have multiple opportunities to encounter the new words and meanings. Students can learn several new terms together, if the words are a component of a larger vocabulary concept. By linking the new words to a concept, students not only learn the meaning of the concept, but also all the terms that are a part of it (Bear, Invernizzi, Templeton, & Johnston, 2007). Many reading series lessons introduce a minimal number of new words a week, and they are introduced in isolation and out of context. When students can categorize new words together, and they are introduced in context, they can learn many new words at once.

Based on research and what I found in my study, teachers should plan opportunities for teacher-led small group vocabulary instruction. Whether it is a part of daily literacy stations or something more on its own, students’ vocabulary development will benefit from this type of instruction. When learning new words and concepts, young children need teachers to not only
provide definitions but also guide them through discussion and practice activities. This can best be done when working in a small group so that teachers can better provide scaffolding and encourage students to be active participants in the discussion and activity. Though it is not known for sure which elements made the intervention more successful, providing more time for repeated exposure and practice, teaching vocabulary words within the context of concepts, and providing instruction in small groups are all possible explanations.

**Recommendations for future research**

If we want to help close the vocabulary gap that exists between students from poverty and their more advantaged peers upon entering kindergarten, more studies must be conducted focusing on vocabulary development in early childhood students, especially those living in poverty. Since this gap has been found to widen as students progress through the primary grades, more research should be done on the grade level in which a vocabulary intervention is the most beneficial in decreasing this gap. Researchers need to study whether a vocabulary intervention might be as successful with first or second graders, or if teachers have a better chance of closing the gap if they target vocabulary instruction more in pre-kindergarten classrooms.

Another area of research that should be a focus is small group and whole group instruction. This is often something that is left up to individual teachers to decide and varies across schools and classrooms. If one type of instruction is found to be more beneficial for student learning, and more specifically for vocabulary growth, then teachers can plan and carry out the most effective instruction for their students.

More studies must be conducted on vocabulary instruction for ESL students and students with special needs. Students who are learning English as a second language enter school behind
their peers in English vocabulary and language development. More research needs to be done on instructional methods and interventions that would increase the language development and vocabulary growth of ESL students. Students with special needs and/or language delays also often struggle with vocabulary development, therefore more studies should be conducted about vocabulary interventions that best meet their needs and encourage vocabulary growth.

Finally, there should be longer-term studies that look at vocabulary interventions in early childhood classrooms. It would be beneficial to look at the results of studies that go from the beginning to the end of a school year, and to see how the increased intervention time affects the growth of students’ receptive and expressive vocabulary development.

Conclusion

In this study, the students from poverty made vocabulary gains, although not significantly more gains than their more advantaged peers. The vocabulary intervention was found to increase vocabulary skills, but not necessarily “close the gap.” A longer study with more intervention time may give us more information about the effectiveness of this intervention with low-income students. Additionally, since the low-income students and their more advantaged peers received the same amount of intervention time and made equivalent gains, the effectiveness of the intervention may be increased for the low-income students if they are given additional intervention time. This additional vocabulary intervention time may take place during the school day or in a before- or after-school setting. More research needs to be conducted on the effectiveness of additional vocabulary intervention time for low-income students.

Because we know that vocabulary development predicts reading ability and is a critical component of reading comprehension, more attention must be focused on vocabulary instruction in early childhood classrooms. This study presents information not previously discussed in
research about vocabulary instruction for low-income kindergarten students. Since we know that the vocabulary “gap” is already present between children living in poverty and their more advantaged peers as early as age 3 (Hart & Risley, 1999), early childhood educators must make vocabulary instruction a priority in their classrooms in order to benefit the reading growth of all students, and particularly those students living in poverty. It is vital for researchers to study what else can be done to reach these children before the vocabulary gap is created and before they even get to kindergarten. This may include studies on vocabulary development and instruction in the homes and preschool classrooms of children living in poverty.

This study helps to fill a void in research on vocabulary instruction for students from poverty. Researchers have studied the importance of vocabulary and the best methods for teaching it, as well as the academic disadvantage that students from poverty have by the time they enter formal schooling. This study serves as a bridge between these previous studies, linking the best vocabulary instructional methods with students from poverty who find themselves behind their peers in kindergarten.

Research on vocabulary instruction in early childhood classrooms for students from poverty has great potential for reducing the vocabulary deficit they possess when entering kindergarten. This study is intended to add to the existing body of knowledge, as well as stimulate future research on this topic. This study indicates that early childhood educators must focus their attention on providing small group direct vocabulary instruction to their students, and that researchers must focus their attention on finding out how to best address the vocabulary gap. Until this gap is addressed, students from poverty will continue to fall behind their more advantaged peers and struggle with literacy and learning.
References


Borrelli, B. (2011). The assessment, monitoring, and enhancement of treatment fidelity in public


Appendix A – Parent Consent

Dear Parent or Guardian:

I am conducting a study on vocabulary development in kindergarten students. As a part of this study, each child will be assessed on his/her vocabulary growth in December and again in March. I am requesting permission for your child to participate.

Only I will have access to your child’s assessment scores. At the conclusion of the study, children’s scores will be included in a document without using any names.

Participation in this study is voluntary. Your decision whether or not to allow your child to participate will not affect the services normally provided to your child by the school. Your child’s participation in this study will not lead to the loss of any benefits to which he or she is otherwise entitled. Even if you give your permission for your child to participate, he/she is free to end participation at any time. You and your child are not waiving any legal claims, rights, or remedies because of your child’s participation in this research study.

Should you have any questions or desire further information, please call me or email me at (812) 526-5448 bensonk@basc.k12.in.us.

Sincerely,

Miss Katie Benson
Kindergarten Teacher
Taylorsville Elementary School

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Please indicate whether or not you wish to allow your child to participate in this study by checking one of the statements below and signing your name. Sign both copies and keep one for your records.

_____ I grant permission for my child to participate in this study on vocabulary development.

_____ I do not grant permission for my child to participate in this study on vocabulary development.

__________________________________________    ____________________________
Signature of Parent/Guardian  Printed Parent/Guardian Name

__________________________________________    ____________________________
Printed Name of Child  Date
Appendix B - Student Assent

**Researcher:** “*I am doing a study to find out the best way to teach you vocabulary words. If you agree to be in this study, I will give you a vocabulary test in January and then again in May. The test will take about 15 minutes, and I will ask you to tell me the names of some pictures and also to point to some pictures after I say a word. If you agree to be in this study, then you will write your name on the line. If you do not want to be in this study, then do not write your name on the line. It is up to you whether you want to be in the study or not, and no one will be upset with you if you don’t want to do it or if you change your mind later.***”

Child’s Signature: ________________________________

Date __________________________

Signature of person obtaining consent:

___________________________________________________________
Appendix C – Fidelity Checklist

Intervention Implementation Fidelity Checklist

Date: _________________________      Session # ______

On a scale from 1-5, 1 being the least and 5 being the most, circle one number in each box to indicate level of fulfillment of the fidelity component.

<table>
<thead>
<tr>
<th>Group</th>
<th>Adherence</th>
<th>Exposure</th>
<th>Delivery</th>
<th>Responsiveness</th>
<th>Differentiation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Did I deliver the intervention as it is designed? Did I follow all aspects of the lesson exactly?</td>
<td>Did I teach this lesson for exactly 15 minutes?</td>
<td>Was I prepared to teach the lesson? Did I show enthusiasm, respond to questions, and communicate clearly?</td>
<td>Were the students engaged? Did they engage in discussion and in all activities?</td>
<td>Were the components of this lesson different from the components from the reading series lesson?</td>
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</tr>
</tbody>
</table>

Comments (This could include interruptions, attendance, student responsiveness, etc.):
5.)

- Sleep

- Night

6.)

- Little

- Large

7.)

- Happy

- Hungry

8.)

- Fat

- Tall
<table>
<thead>
<tr>
<th>RED</th>
<th>YELLOW</th>
<th>BROWN</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLUE</td>
<td>GREEN</td>
<td>ORANGE</td>
</tr>
</tbody>
</table>

| ___R___ Neighborhood | ___G___ Helmet |
| ___B___ Equipment    | ___O___ Community Workers |
| ___Y___ Flashlight   | ___Br___ Leap |
| ___Br___ Ribbon      | ___O___ Dance |
| ___Y___ Weather      | ___G___ Hibernate |
| ___B___ Umbrella     | ___R___ Explode |
| ___R___ Plant        | ___B___ Senses |
| ___G___ Acorns       | ___Y___ Garden |
| ___O___ Roots        | ___Br___ Castle |
| ___G___ Seed         | ___B___ Insects |
| ___R___ Ladybug      | ___O___ Lumberjack |
| ___Br___ Glide       | ___Y___ Skyscraper |
1.) Circle the last animal with blue.
   Circle the animal that is before the dog with red.
   Circle the first animal with green.
   Circle the next animal with yellow.
   Circle the animal that is after the pig with brown.

2.) Circle the biggest apple with Red.
   Circle the smallest apple with Blue.

3.) Circle the Shortest man with Green.
   Circle the Tallest man with Brown.

4.) Put a Red x Under the cake.
   Put an Orange x Between the present and the cake.
   Put a Brown x Above the present.
   Put a Blue x Below the present.
   Put a Yellow x Over the cake.
   Put a Green x Beside the cake.

Circle the picture/word that is the opposite of the word I say.

5.) Morning
6.) Big
7.) Sad
8.) Short