

Practices and Perspectives of Primary Language Arts Teachers: A Formative Design
Experiment Analyzing the Use of Professional Development to Enhance
Vocabulary Instructional Practices

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ABSTRACT

The purpose of this study was to determine the impact of professional development designed to enhance vocabulary instruction on four first-grade teachers' vocabulary instructional practices. The study incorporated a formative design methodology and the collection of baseline data on current instructional practices to inform the design of the professional development and subsequent intervention. According to Nagy and Scott (2004), word knowledge encompasses aspects and stages that surpass the common acceptance of what it means to know a word, definitional knowledge, and into the incorporation of that word into a child's working vocabulary knowledge.

The teacher participants were provided with vocabulary instructional strategies through professional development with the goal of improving their vocabulary instructional practice. Following the professional development, the researcher initiated an eight-week intervention including observations, group meetings, and interviews to evaluate the impact of the professional development. Findings indicated that the professional development and intervention positively impacted the vocabulary instructional practices of the four first-grade teachers. Implications for future research include the benefit of using effective practices in professional development and a formative design framework to impact the instructional practice of primary teachers.

DEDICATION

This dissertation is dedicated to the memory of my grandfather, Dr. Frank H. Wiley, for his encouragement and support in achieving my educational goals. I am sure he is beaming down with great pleasure and pride at the success I have achieved. Thanks Pops!

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Chapter 1: Introduction

“The more words we know, the more distinctions we make about the world, the more clearly we see things in our world” (Stahl, 1999, p.1). This quote from Steven Stahl encapsulates for me the need for extensive vocabulary instruction in our schools. In spite of the vast research into the benefits of developing the vocabulary of young children, instruction in this area has become a lost art within our schools (Beck & McKeown, 2007; Biemiller & Boot, 2006; Biemiller, 2003; Brabham & Lynch-Brown, 2002; Graves, 2006; Hart & Risley, 2003; Penno, Wilkinson & Moore, 2002; Silverman, 2007).

Recently while reading with my seven-year old daughter in her first-grade basal reader, we were reviewing the identified vocabulary for the selected reading. The story was written by Cynthia Rylant (1997) and based upon her character, Poppleton the Pig. The vocabulary words identified for focus were boy, head, few, brought, and read. These words did not have rich meanings or spark any discussion between the two of us. Our discussion turned instead to the meaning of the words vast, propped, certainly, and pardon. These words had meanings that were unclear to her, but critical to understanding the text. The words identified in the basal for vocabulary instruction were sight words meant to further the ability to read, but not words that could expand understanding of the story or develop her vocabulary.

To define vocabulary, it is necessary to examine its use in everyday lives. *The Literacy Dictionary* (1995) defines vocabulary in five different categories.

1. A list of words, as in a dictionary or glossary; lexicon.
2. Those words known or used by a person or group.
3. All the words of a language.

4. Nonverbal forms of expression, as *the vocabulary of the painter*.
5. A subset of several of several intelligence and reading tests.

(Harris & Hodges (Eds.), p. 274)

Vocabulary words are then identified as “controlled, core, expressive, listening or hearing, reading, receptive, recognition or sight, simplified, speaking or oral, and writing” (Harris & Hodges (Eds.), 1995, p. 274). The vocabulary terms often identified for instruction in basal readers is “recognition or sight” word vocabulary, which are words that are understood quickly and do not require word analysis. The vocabulary words often missing from instruction focused on basal readers is “receptive” vocabulary which most aids in comprehension when reading or listening. Receptive vocabulary words are the type of vocabulary evaluated during vocabulary subtests of intelligence (Harris & Hodges (Eds.), 2005).

Due in part to the Elementary and Secondary Education Act (ESEA), a.k.a. No Child Left Behind Act (NCLB), the current focus of reading instruction in primary classrooms is on decoding words and the development of sight word vocabulary words, with a noticeable absence of receptive vocabulary instruction (Biemiller, 2003). Lack of attention to receptive vocabulary in the early grades is attributed to the emphasis placed on de-coding skills rather than reading comprehension skills. Examinations of the vocabulary words from a first-grade basal reader confirm the absence of rich vocabulary. Rich vocabulary words are described as “sophisticated words of high utility for mature language users and that are characteristic of written language” (Beck & McKeown, 2007, p. 253). Schools are fertile ground for new and interesting vocabulary. Children’s literature, content area classes, and natural conversation provide a wealth of new vocabulary which often gets no more than a casual mention within current reading

programs. Primary students need direct instruction on vocabulary that challenges them to go beyond word identification skills and into the richness of written texts.

Background

The impact of legislation. NCLB requires that each state adopt standards that form the basis for curriculum in all areas of instruction for grades K-12. These standards are used to direct the formulation of high stakes tests that are developed and administered to evaluate student proficiency in all subject areas. Situated within the English standards for the state of Virginia are the literacy skills for reading, writing, and spelling (Virginia Department of Education Website). The lack of attention given to the development of vocabulary is strikingly evident.

For kindergarten students, the focus of the oral language, reading, and writing standards for curriculum is directed primarily at the student becoming a functional reader and writer. However, the directive of the standards is on organization of the print, phonetic principles, and distinction between fiction and non-fiction selections, with little or no mention of the development of vocabulary (Virginia Department of Education Website).

First-grade standards provide for the “expanded use of listening and speaking vocabularies within oral language,” but only encourage the use of context clues and pictures to determine unknown vocabulary (Virginia Department of Education Website). No emphasis is placed upon instructional practices related to vocabulary acquisition. In the second-grade standards, listening and speaking vocabularies are again encouraged (Virginia Department of Education Website). At this level, the attention given to vocabulary centers on learning language structure and not the development of vocabulary knowledge, essentially leaving those with known vocabulary deficits to fall further behind each year.

Similarly, in the standards for third grade, there is a lack of attention to vocabulary instruction; the only mention of vocabulary is found within the oral language standard and is directed at the ability to communicate ideas using “correct language and specific vocabulary” (Virginia Department of Education Website). Teachers feel the pressure to design and deliver instruction based upon these standards due to the demand from individual school systems for high test scores (Biemiller, 2003).

This flow of directives leads teachers to neglect instruction they may know builds the skills of their students in order to focus all instructional time on the standards (Beck & McKeown, 2007; Neuman & Roskos, 2005). Hence, vocabulary as an instructional practice has been lost in the legislation. How are children to develop a strong vocabulary when it is not encouraged within state mandated standards?

No Child Left Behind and The National Reading Panel. The lack of attention to direct vocabulary instruction within state standards is surprising given the findings of the National Reading Panel (NRP) and the Reading First Initiative signed into law in January of 2002. The National Reading Panel (2000) emphasized that reading comprehension is directly tied to vocabulary development and instruction related to what has been read. After review of current research, the recommendations of the panel are for the teaching of vocabulary both directly and indirectly within the contexts of incidental learning, storybook reading, and through the use of computer technology (National Reading Panel, 2000).

Additionally, the No Child Left Behind Act (NCLB) of 2001 emphasizes the need for instruction in vocabulary in the primary grades using “scientifically established” teaching methods. Districts funded through the NCLB must demonstrate the use of systematic research-

based approaches to instruction in order to receive funding. Currently, the programs supported by the NRP and approved by the NCLB assess reading improvement through lists of words and short passages to evaluate phonetic knowledge and the use of context. These measures are unlike the texts children experience when reading children's literature or authored texts (Wilson et al., 2004). One continuing problem is that scientifically established methods for teaching vocabulary have not been firmly established.

Current Instructional Practices

Wide reading. One school of thought supports "wide reading," a strategy designed based on the assumption that by exposing children to more text and encouraging extensive reading experiences, students will acquire vocabulary (Cunningham & Stanovich, 1997). Wide reading is encouraged through strategies such as "Drop Everything and Read" (DEAR) or "Sustained Silent Reading" (SSR). The belief is that reading comprehension skills including general knowledge, vocabulary, and syntactic knowledge can be developed through the act of reading itself (Stanovich, 2004).

However, students who are already having reading difficulties need more direct instruction to strengthen their reading and vocabulary skills in order to tackle more challenging texts (Stanovich, 2004). Often, students may possess the ability to pronounce a given word, but do not have vocabulary background knowledge or understand the contextual clues to support processing the meaning (Beck & McKeown, 2001). This is especially true for young or struggling readers who cannot read more difficult texts and need to learn vocabulary through other means.

Wide reading as an instructional method takes a very passive approach to vocabulary learning (Stanovich, 2004). Children learn words from reading and listening to text, but to really understand both the passive and active uses of words, they need to interact with them beyond the context of reading a text. Missing from the wide reading theory is the benefit that direct vocabulary instruction has on vocabulary growth (Stanovich, 2004).

Direct vocabulary instruction. In direct vocabulary instruction, word meanings are directly taught through discussion of root words, compound words, prefixes and suffixes, and inflections. One well known specified sequences of word acquisition was Dale and O'Rourke's (1981) *Living Word Vocabulary* (LWV). Biemiller and Sloan, in their 2001 study, review the use of the "well-defined sequence of word acquisition" (p. 499). The LWV identifies appropriate words in relation to age groups and supports a sequential system of vocabulary instruction. Findings from the Biemiller and Sloan study validated the LWV for current populations (young learners in today's schools) and showed that the greatest differences between children with low vocabularies and high vocabularies were found by the end of second grade. Their results indicated that vocabulary is acquired in a "fairly fixed order," which supports direct and sequential vocabulary instruction.

Read alouds and vocabulary. The benefit of using children's literature in the form of a read aloud related to direct vocabulary instruction results in increased in vocabulary knowledge and improved comprehension (Biemiller & Boote, 2006; Brabham & Lynch-Brown, 2002; Penno, Wilkinson, & Moore, 2002, Beck & McKeown, 2007, Silverman, 2007). Direct instruction embedded in the context of children's literature improves vocabulary acquisition in primary-aged learners. Additionally, with the incorporation of activities and instruction that

encourage the contextualization of vocabulary beyond the texts of the stories, students demonstrated greater gains in overall vocabulary knowledge (Biemiller & Boote, 2006; Beck & McKeown, 2007, Penno & Wilkinson, 2002, Silverman, 2007). When instruction goes beyond the traditional casual mention of vocabulary during the course of a read aloud to the incorporation of rich instruction that allows for the use of new vocabulary in varied contexts outside their own experiences, students can increase their vocabulary knowledge.

Teachers Perceptions of Vocabulary Instruction

In November 2002, Brabham and Villaume (2002) summarized statements posted by teachers participating in a listserv discussion on the RTEACHER electronic mailing list in which the teachers expressed that there was neglect of vocabulary instruction in both teacher education and in professional development programs. Teachers participating in the discussion were alarmed by the vocabulary discrepancies they discovered in the children entering their classrooms, and they challenged their colleagues to “campaign to reestablish vocabulary teaching and learning as a vital component of effective reading instruction” (Brabham & Villaume, 2002, p. 264). These teachers concluded that the current emphasis on decoding and sight word instruction as a result of NCLB had shifted the instructional practices of primary teachers away from in-depth vocabulary instruction. As a result of the many responses to the listserv discussion, the authors of the article synthesized the teachers’ perceptions of the meaning of having rich vocabulary knowledge. They organized the responses into five general categories:

1. A rich vocabulary contains a lot of words.

2. A rich vocabulary embodies and reflects extensive and complex understanding of many different concepts.
3. A rich vocabulary means having deeply rooted, flexible understanding of concepts that words represent.
4. A rich vocabulary is powered by a keen ability to use context to tease out important aspects of word meaning and subtle differences in word usage.
5. A rich vocabulary is fired by a fascination with language that creates disposition and motivation for learning.

(Brabham & Villuame, 2002, p. 264-265)

A study conducted six years after Brabham & Villuame's (2002) work involved collecting survey data from 72 reading educators who attended a professional development on vocabulary instruction or responded to a survey sent out electronically to a listserv of reading educators (Berne & Blackowicz, 2008). The purpose of the survey was to identify teacher concerns about vocabulary instruction, effective practices, and resources that support the vocabulary growth in their students. Additionally, teachers were provided the opportunity to ask questions of "vocabulary experts" (Berne & Blackowicz, 2008).

Results indicated that the top five successful vocabulary instructional practices indicated by the teachers included: (a) concentration on the relationships between words, (b) use of read-alouds, (c) word games, (d) class discussion, and (e) the use of word walls or banks (Berne & Blackowicz, 2008). The primary concern expressed by the respondents was the "lack of district or building-wide consistency in vocabulary practices" (Berne & Blackowicz, 2008, p. 219).

Other concerns included needs for specific methodologies or approaches, practices for second

language learners, and instructional materials. Questions for researchers echoed the concerns expressed about implementing a school or district-wide approaches to instruction followed by questions about methodologies and materials (Berne & Blackowicz, 2008). The researchers had several conclusions regarding comprehensive vocabulary instruction:

- The wisdom of teacher practice is in line with empirical research on vocabulary instruction.
- Teachers want to know they are working in a context where there are shared understandings about effective practices for enhancing students' vocabulary knowledge.
- Although teachers have particular strategies and practices they believe to be effective, they wish to weave together isolated practices into a systematic program for vocabulary instruction.

(Berne & Blackowicz, 2008, p. 320)

Berne and Blackowicz (2008) concluded that teachers are in need of a systematic and comprehensive approach to vocabulary instruction. Vocabulary instruction is slowly moving to the forefront of reading research discourse (Brabham & Villaume, 2002). Currently, basal reading programs provide recommendations and materials for the teaching of decoding skills and the development of sight word vocabulary, but these texts are not sufficient to build the vocabularies of primary learners. Literacy researchers have documented the key role of vocabulary development in a child's ability to comprehend text and make the transition from "learning to read" to "reading to learn" (Chall & Jacobs, 2003). In essence, we cannot expect vocabulary to become well developed for all students as the result of isolated interactions with

texts. Teachers understand the importance of effective practices in vocabulary instruction and want systematic comprehensive approaches to vocabulary instruction. Researchers need to respond to this need by designing studies that provide systematic approaches to teaching vocabulary through effective professional development methodologies.

Purpose

The pedagogical goal of this study was to develop an intervention that would improve current vocabulary instructional practice through professional development and to evaluate the impact of this instruction. The question and sub-questions that guided this study were:

Primary Question: How is professional development integrated into current instructional practice related to the teaching of vocabulary?

Sub-Questions One: What are primary teachers' perspectives on their vocabulary instructional practices?

Sub-Question Two: What are primary teachers' current vocabulary instructional practices?

Sub-Question Three: How are existing practices enhanced following participation in professional development?

Chapter 2: Literature Review

To provide a framework for this study, the literature review is organized in three sections. The first section addresses early vocabulary acquisition and literacy development. The second section outlines the theoretical framework of what it means to “know” a word. The third section addresses effective vocabulary instructional models and the relationship between vocabulary and comprehension. The fourth and final section reviews features of professional development models that have been found to have a positive effect on teacher knowledge and skills.

Early Vocabulary Acquisition

Our very first experiences with vocabulary occur within our homes through a tradition of socialization with the spoken word (Ochs, 2000). This form of socialization is often referred to as “language socialization” and has been investigated through research that “examines how language practices organize the life-span process of becoming an active, competent participant in one or more communities” (Ochs, 2000, p. 230). Many of the words repeated and later understood by children come from interactions with their parents, siblings, relatives, or caregivers. Children in western countries are surrounded by and exposed to print regardless of economic, cultural, or social status “because literacy practices are embedded within the social fabric of family life” (McCarthy, 1997, p. 179). Parents from all walks of life value and promote literacy practice within the home; differences arise in how literacy is practiced.

Language socialization. Research has been conducted on language socialization that evaluates the literacy practices of families with consideration given to both sociocultural/economic background and the context of literacy interactions (Garrett &

Baquedano-Lopez, 2002). An in-depth look at the practices, routines, influences, and history of literacy within the home allow for deeper understandings of variability within literacy socialization practices from community to community and culture to culture. Children from different cultures and socioeconomic groups are often socialized into literacy practices based upon the traditions and beliefs of their communities (Heath, 1982). Differences arise in how children are socialized in relation to: (1) the materials within the home, (2) practices that are a part of their individual environments, and (3) the value placed upon literacy skills within any given community.

For some children, interaction with literacy includes cuddling up with a good book for a bedtime story with a parent, loved one, or caregiver who may know that reading with children promotes early school success (Heath, 2000). These children are often exposed to vocabulary through written text in the form of books and interactions that socialize children to mainstream literacy practices (Heath, 2000). Their well-developed vocabularies are the results of unintentional, incidental, and experiential teaching. Their parents or caregivers converse with them, read to them, and engage them in early literacy acquisition through daily life experiences (Brabham & Villaume, 2002). These children learn early in their lives how to “take” or learn from books and are engaged in conversations around books. These interactions between the children and their caregivers closely align with classroom interactions and provide for them a “mainstream pattern” of interacting and learning with written text (Heath, 1982).

Children who are socialized into literacy in upper and middle-class homes tend to have large collections of fiction books, non-fiction books, magazines, newspapers, and other literacy materials easily accessible within the home (McCarthy, 1997). Their parents often express

enjoyment in reading and are closely connected to activities and procedures within the schools their children attend. Middle and upper class children learn from an early age that the interaction between speech, printed materials, and writing provides them with power and status within their communities (Purcell-Gates, 1995).

The homes of children from working class communities and culturally diverse backgrounds are rich with literacy practices and print rich materials as well (McCarthy, 1997). Literacy as a learned behavior within working class and culturally diverse homes often serves a functional purpose for religious, cultural, or familial practice. Print materials found within these homes are not always evident to the casual observer, but nevertheless, present. Materials often found within these homes included bibles, textbooks, and maps all that served a functional purpose in the acquisition of literacy for their children (McCarthy, 1997). The difference arises in how these children are socialized to “take” from print materials and how literacy is practiced within the home (Heath, 1982). The ways in which literacy is practiced within homes is “as much a part of learned behavior as are ways of eating, sitting, playing games, and building houses” (Heath, 1982, p. 49). Though mainstream patterns of literacy acquisition are the most highly accepted within mainstream culture, educators and researchers must acknowledge other means of “taking” from literacy practices to better serve all students (Heath, 1982).

The assumption of most educators and researchers is that children from working class and culturally diverse homes are at a deficit regarding the acquisition of literacy (Heath, 1982). Brice-Heath (1982) summarizes the presumed deficit in the following manner: “The general view has been, whatever it is that mainstream school-oriented homes have, these other homes do not have it; thus these children are not from the literate tradition and are not likely to succeed in

school” (p. 50). The assumption has been made that individuals from lower socioeconomic and diverse cultural backgrounds do not value education, lack access to high quality print materials in the home, and demonstrate socialization patterns that do not support the acquisition of language skills (McCarthy, 1997). The socialization of literacy within the home has far reaching consequences for those who are not socialized through mainstream patterns.

Mainstream practices. The primary difference between those socialized through mainstream practices (primarily upper/middle class) and those socialized through familial or culturally established practices (primarily working/lower class) focuses on the amount of exposure to contextualized versus decontextualized language (Nagy & Scott, 2004). Contextualized language occurs within conversation and allows for the use of gestures, intonation, and shared knowledge or experiences. Stories passed down through oral tradition are presented through contextualized interactions which allow the participants to express shared vocabulary and knowledge that provides greater comprehension. Written stories contain decontextualized language meaning that the communication of ideas relies heavily on the complexity of the vocabulary and word choice to convey the meaning (Nagy & Scott, 2004). Children who are read to on a regular basis are exposed to richer vocabulary through decontextualized language. Children from working class families and culturally diverse backgrounds, and who are exposed to primarily contextualized language, often lack experience with vocabulary and knowledge gained from reading decontextualized text common in mainstream education practices.

Socioeconomic implications. Children who have been read to on a regular basis and engaged in mainstream vocabulary-centered conversation enter first-grade with an oral

vocabulary of nearly 10,000 words. Those with less-developed word knowledge have approximately half that vocabulary (Graves, 2006). Research into vocabulary acquisition often attributes this widening gap to differences between socioeconomic groups (Chall & Jacobs, 2003; Cunningham & Stanovich, 1997; Hart & Risley, 2003). These studies indicate that traditionally those who are from lower socioeconomic status not only enter school with a less extensive vocabulary, but the gap between socioeconomic groups continues to widen over the course of their educational experience.

Hart and Risley (2003) undertook the challenge of collecting data from 42 families over the course of 1,318 hours of observations across 2 ½ years. They found that all of the families played with, nurtured, potty trained, and taught manners within a wide variety of lifestyles, but the differences in vocabulary development were staggering. Not only did the children from lower socioeconomic homes learn fewer words; they learned words more slowly. On average, children on welfare experienced 616 words per hour whereas, the working class children experienced 1,251 words per hour, and the children of professional families experienced 2,153 words per hour. Cumulatively, the average child on welfare by age four would have experienced 13 million fewer words than that of a child in an average working-class family (Hart & Risley, 2003).

Matthew effect. Much of the difference in vocabulary growth between socioeconomic groups is attributed to the *Matthew Effect*. The term comes from the book of Matthew in the Bible where it is said “the rich get richer and the poor get poorer” (Stanovich, 2004). This theory emerges from the belief that the combination of poor decoding skills, lack of exposure to text, and the difficulty of the materials makes early reading experiences frustrating for struggling readers; they tend to fall further and further behind in literacy skills throughout their educational

experience (Cunningham & Stanovich, 1997). As students age, the gap widens and so does the actual number of words read each year. Stanovich (2004) suggests that in relation to vocabulary, children with poorly developed vocabularies read more slowly and with less enjoyment. This in turn, leads to the reading of fewer texts and exposure to fewer words, with the result being a less skilled reader (Stanovich, 2004). The relationship is cyclical and continues throughout the course of a child's reading experience unless intervention is undertaken to improve vocabulary and enjoyment for reading. Students entering first-grade with larger vocabularies graduate with vocabularies that are often twice that of their peers from lower socioeconomic levels (Graves, 2006).

Fourth grade “slump.” Without intervention, by fourth grade, students experience what is referred to by Chall and Jacobs (2003) as a “poor children’s fourth-grade slump.” As children progress through the six stages of reading from stage zero (pre-reading), through stages one, two, and three (learning to read), and into stages four and five (reading to learn), they become more experienced with text and able to use reading as a tool for learning. Stages one, two, and three are typically acquired in first through third grade when children develop phonetic skills and fluency, and are able to read simple familiar texts. It is during the third stage that children begin to make a shift from “learning to read” to “reading to learn,” which occurs between fourth and eighth grade. The transition from stages two to three is critical to academic success, and this is often where struggling readers cannot make the shift (Chall & Jacobs, 2003). During stages four and five, texts become more demanding and students must be able to recognize difficult words and think critically to allow for an expansion of their vocabulary and knowledge.

Often low-income children and their middle to high income peers achieve similar results on academic measures until fourth grade, when the tests scores began to fall for low SES children (Chall & Jacobs, 2003). After the third grade, basic language abilities in relation to grammar were stronger than word knowledge for low-income students. Instruction in the primary grades is more heavily contextualized through student teacher interaction versus the reliance on decontextualized text relied upon in upper grades. This shift from contextualized to decontextualized instruction can account for the fourth grade “slump” in children from lower SES students (Chall & Jacobs, 2003).

Word Knowledge

Foundational studies on the acquisition of vocabulary date back more than two decades. Becker’s study conducted in the 1970’s and published in the *Harvard Educational Review* found that teaching children to identify and decode words would not allow them to comprehend material beyond a second grade level. During the 1980’s researchers such as Anderson and Nagy (1984) evaluated learning words in context and the size of vocabulary growth; Beck and McKeown (1987) and Stahl and Fairbanks (1986) began research into vocabulary instruction and its impact on comprehension; and Graves (1986) published a comprehensive review of research on vocabulary instruction. Research continued into the 1990’s with the identification of stronger links between vocabulary and comprehension (Beck & McKeown, 1991), more research into vocabulary size and identification (Anderson & Nagy, 1992), and the long-term effects of socioeconomic disadvantages on early reading acquisition (Cunningham & Stanovich, 1997). Out of this research, three key areas of debate have emerged: first, how to define the terms

“word” and “vocabulary;” second, how many and what types of words constitute a strong vocabulary?, and third, how do instructional practices impact the vocabulary development?

What is a word? Vocabulary is defined as the knowledge of word meanings and has a marked impact on the ability of a child to comprehend text (Biemiller, 2003). Unfortunately, the assumption of the majority of educators is that “a vocabulary term is synonymous with a word” (Baumann & Kame’enui, 2004). The debate between researchers analyzing vocabulary acquisition stems from what individual researchers considered a “word” and often depends upon the context within which it is being examined. Extremes within the field range from the identification of all syntactic variations of words as separate words to the identification of only root words as vocabulary with the eliminations of all grammatical and semantic variations (Biemiller, 1999). To take the debate one step further would be to look at the dimensions of word knowledge which includes whether the word is used in more formal or informal context (known as register), each words’ grammatical form, and its affective connotations (Beck et al., 2002). The learning and assessment of vocabulary is truly multifaceted and complex and has led to difficulty when identifying what is considered a strong vocabulary.

How many words? The lack of consensus on defining what constitutes a “word,” particularly what constitutes a “vocabulary word,” has direct impact on the determination of the number of words a child must know in order to be considered to have an adequate vocabulary. According to the research of Anderson and Nagy (1984), there are 88,700 different word families or types. This estimate is more than five times the estimated 17,000 words reported by D’Anna, Zechmeister, and Hall (1991).

Given the estimate of Anderson and Nagy (1984), children would need to learn nearly 3,000 new words every year, an incomprehensible task. Biemiller and Slonim (2001) focus their research on root word acquisition and estimate that children acquire 9,000 root words by the time they leave elementary school. Estimates within the literature place the number of words needed to be taught and learned each year between 300 and 500 words, a more reasonable estimate (Stahl, 1999). The discrepancy between estimates originates not only from what constitutes a word, but also from the word source used for analysis, sampling technique, and criteria for determining if a word is known (D'Anna, Zechmeister & Hall, 1991).

“What Does it Mean to Know a Word?”

Knowing a word is not the ability to provide a complex definition in the context of an assignment or assessment (Nagy & Scott, 2004; Neuman & Dwyer, 2009; Stahl & Nagy, 2006). It goes far beyond this superficial understanding and into a more complex understanding of the usage of words, how words relate to each other, the use of words in oral language versus written language, and many other of the complexities that make up the English Language (Nagy & Scott, 2004). Word knowledge can range from never having any experience or encounter with a particular word to development of a deep understanding that allows the reader to understand its choice within a specific text, use the word in speech, and to use the word correctly in writing. According to Nagy and Scott (2004), word knowledge encompasses understandings that surpass the common acceptance of what it means to know a word (definitional knowledge) and involve the incorporation of the word within a child's working vocabulary knowledge. They summarize word knowledge in relation to five key components which describe the complexity of “knowing

a word.” Nagy and Scott (2004) describe word knowledge as incremental, multidimensional, polysemous, interrelated, and heterogeneous. The section below addresses each of these aspects.

Incremental. The first component acknowledges that word knowledge is incremental and requires small steps achieved over time and countless interactions with words (Nagy & Scott, 2004). The more exposure and interaction a person has with a word, the deeper the understanding of its meaning (Nagy, 1988). Researchers who evaluated the effectiveness of varying forms of vocabulary instruction found that children show gains in vocabulary development when words are presented within the context of children’s literature, but then expanded through repeated readings of the text (Biemiller & Boote, 2006), teacher-led discussion (Brabham & Lynch-Brown, 2002), and additional instructional activities supporting knowledge and use of the new vocabulary (Silverman, 2007).

Multidimensional. The second component relates to the multidimensional nature of word knowledge. The natural tendency is to evaluate knowledge of a word as an “all or nothing proposition” (Beck et al., 2002). However, word learning is multidimensional, meaning that students can understand the use of a word in specific contexts but not in others (Nagy & Scott, 2004). Some students may be able to pronounce a word but have no conception of its meaning, whereas another student may be able to define a word but cannot use it in a sentence, and others may have a complex understanding of the words usage and have already incorporated the identified word into their working knowledge. These many dimensions of understanding play out in classrooms on a daily basis and account for the inability of educators to effectively assess word knowledge (Scott & Nagy, 2002).

Polysemous. The third component involves the many multiple meanings most words have, known as polysemy or polysemous. This term is applied to words which have multiple and sometimes related meanings. The more often a word is used in language or writing the more likely it is to have multiple definitions. Some definitions reflect only small difference in meaning where as others are vary greatly (Scott & Nagy, 2002). The meaning of a word is dependent upon the context in which it is used and requires inference on the part of the reader (Nagy & Scott, 2004). Educators must address the subtle or not so subtle differences between words and teach readers to effectively evaluate the multiple meanings provided for most words.

Interrelatedness. “Words are often taught and tested as if they were essentially isolated units of knowledge” (Nagy & Scott, 2004, p. 578). Constructivists take the stance that learners must make connections between what is already known and what is to be learned (Nagy & Scott, 2004). Knowing the meaning of one word can provide a background knowledge from which the meaning of another word can develop (Scott & Nagy, 2002). An example of this would be that if a child knows the meaning of the word baby, a partial understanding of the meaning of the word infant also exists. The definition of the word infant may or may not contain the word baby, yet the word baby is easily understood by most children and provides the perfect platform upon which to build knowledge of the word infant. Word learning must first begin with what is known and build upon that knowledge to allow for deeper understanding (Nagy & Scott, 2004).

Heterogeneous. The fifth and final component of word knowledge is that words are heterogeneous (Scott & Nagy, 2002). The complexity of understanding words differs substantially depending upon the kind of word. For instance, the function of the word *empathy* is much more complex than the function of sight words such as *the*, *and*, or *of*.

“The fact that the different dimensions of word knowledge are at least partially independent of each other also means that the same work can require different types of learning from different types of students, depending on what they already know about a word” (Nagy & Scott, 2004, p. 578).

The heterogeneous nature of words makes some words more difficult to learn than others which also make them more difficult to assess. The complexity of components of vocabulary knowledge are helpful in explaining why it is so difficult for educators to determine how to teach words, which words to teach, to whom they should be taught, and how to assess the knowledge gained.

Vocabulary Instruction

Vocabulary researchers have found that in order for vocabulary instruction to be retained, the word meanings must be learned in a meaningful context and explained to the students (Biemiller, 2003, Biemiller & Boote, 2006). Numerous studies support the teaching of vocabulary to primary students in which trade books provide a supportive context (Beck & McKeown (2007), Biemiller & Boote (2006); Brabham & Lynch-Brown (2002); Coyne, McCoach, Loftus, Zipoli, & Kapp, (2009), Penno, Wilkinson, & Moore (2002), and Silverman (2007).

In each of the selected studies, read alouds served as a source of vocabulary instruction for children in primary grades. Additionally, students were evaluated on their gains in vocabulary knowledge as the result of participation in instructional lessons designed around children’s literature. The researchers in each of these studies recognized the overall lack of direct instruction of vocabulary for primary learners and the impact of that lack of instruction on

primary learners' vocabulary development context (Beck & McKeown (2007), Biemiller & Boote (2006); Brabham & Lynch-Brown (2002); Coyne, McCoach, Loftus, Zipoli, & Kapp, (2009), Penno, Wilkinson, & Moore (2002), and Silverman (2007).

The studies vary according to the type and amount of instruction provided in relation to story vocabulary and the selection of words targeted for vocabulary instruction. Biemiller and Boote (2006) divided their study into two parts: (a) evaluation of the effects of pretesting and multiple readings of a text on vocabulary acquisition and (b) evaluation of more intensive instruction on the transfer of word meanings to new contexts. Vocabulary words identified for instruction were selected from texts identified for read alouds and cross-referenced with Dale and O'Rourke's (1981) *Living Word Vocabulary*. Words were omitted if known by more than 80% of children at a given grade level. Study one evaluated the effectiveness of reading an individual book twice versus four times with and without explanation. In study two, the same protocol was followed with the addition of "more" direct instruction to contextualize the vocabulary. Results indicated that there were no pretest influences, and those students who received instruction on the identified terms showed a 22% gain on vocabulary from pretest to post-test as compared to students who did not receive instruction (averaging a gain of 12%). Benefit was found for multiple readings, with greater benefit found for reading with direct vocabulary instruction. Further gains were found in study two which incorporated the use of greater numbers of words, vocabulary reviews, vocabulary words in new contexts, and teacher-supplied word meanings. The increase from study one to study two in pre-test to post-test gains was 41% compared to the 22% from the first study. Biemiller and Boote (2006) support instruction in many word meanings rather than few word meanings.

These results were in keeping with the findings of Brabham and Lynch-Brown (2002) who evaluated first and third grade students on vocabulary gains based on readings by student teachers. Scripts guided three readings of each book for the different treatments. The first treatment was entitled “just reading,” and the student teachers read the text without discussion or comments from the students. At the conclusion of the reading, students were asked to respond to the text by writing or drawing without the benefit of interaction. The second treatment was entitled “performance reading,” which included scripted comments and questions targeting specific words and concepts with explanations and a five-minute discussion at the conclusion of the reading. The third treatment was entitled “interactional reading,” which incorporated performance reading with the addition of student interaction. Story-related interaction was encouraged during the reading of the story. Results indicated the greatest vocabulary gains were found for the third treatment when children were permitted to participate in discussion of the story.

A similar study conducted by Penno, Wilkinson, and Moore (2002) evaluated vocabulary growth within two treatment conditions, with the reading of a story without explanation, and one which included the explanation of vocabulary words within the context of the read aloud. The greatest gains were found when vocabulary words were discussed within the context of a read aloud. Additionally, due to the increased interaction around the context and vocabulary of the story, the students were better able to re-tell the story, thus demonstrating gains in comprehension (Penno, Wilkinson, & Moore, 2002).

Biemiller and Boote (2006) support the teaching of many more words in an individual instructional period than other researchers. Beck and McKeown (2007) and Silverman (2007)

chose to target fewer words for instruction based upon the Beck, McKeown, and Kucan (2002) Tiered Word Selection Strategy. The strategy provides a system for categorizing words based upon three tiers.

Tier One words, which are words already found in the oral vocabulary of primary children, but not rich in meaning. Tier One consists of common words, such as baby, happy, and clock, which are more easily learned by most children (Beck, et al., 2002). These words need to be evaluated on a “word-to-word” basis to determine the amount of attention needed to achieve understanding (Beck, et al., 2002). Additionally, students may need to be assessed on an individual basis to determine if these words require direct instruction.

Sandwiched in the middle are the Tier Two words, identified as being the most ripe for vocabulary instruction. Tier Two words are high frequency words for mature language users, such as crouch, abundant, and respect. They characterize written text and are not likely to be a part of conversation. Tier Two words add to an individual’s ability to process text and increase overall vocabulary knowledge. They include descriptive vocabulary words which help readers understand written text.

At the end of the spectrum are Tier Three words, words that are of low frequency and are found in specific education domains, such as lathe, isotope, and peninsula, Tier Three words are best learned within the context area lessons (Beck, et al., 2002). These words are best taught on an “as needed” basis within the specific domain in which they are found. Tier Three usually have one primary meaning and are of “high utility” for learners (Beck, et al., 2002).

Beck and McKeown (2007) evaluated vocabulary knowledge using a pretest/post-test control group design to evaluate the effectiveness of instruction based upon their strategy entitled

“Text Talk” (Beck & McKeown, 2001). The “text talk” strategy developed by the researchers emphasizes that vocabulary instruction should focus on Tier Two words and use questions that initiate discussion about ideas and content as text are read. Students are asked to answer teacher-directed questions. The researchers suggest that teachers work with students to expand their answers and interact with the text content. This can be done by returning to the text for a follow-up reading of a particular passage and encouraging discussion increases the likelihood of eliciting student responses. The authors also suggest that teachers repeat their answers and add probing questions that allow for elaboration of ideas presented and encourage other children to participate in the discussion (Beck & McKeown, 2001).

For study one entitled “Rich Instruction,” the researchers identified 22 words to be targeted for instruction over a two-month period. In study two, entitled “More Rich Instruction,” they followed the same procedures of study one with the inclusion of three additional words per week targeted for additional instructional activities (Beck & McKeown, 2001). Results for both studies showed mean gains from pre to post-test with the greatest increase found in words targeted for “More Rich Instruction.” These results support the teaching of vocabulary to children as young as first and second-grade with additional gains found when instruction included decision making related to multiple contextual situations and discussions focused on uses for new vocabulary (Beck & McKeown, 2001).

The debate between instructional approaches that aim for depth of instruction (deeper word knowledge of fewer words) versus those that aim for breadth of instruction (more words with less instruction) are at the center of the vocabulary instruction debate. Research studies that focus on instruction aimed at breadth of word knowledge resulted in findings indicating that this

type of instruction, providing brief definitions within the context of a story, allow for the teaching of many more words in a short amount of time (Biemiller & Boote, 2006; Penno, et al., 2002). Researchers who support greater depth of instruction recognize that word knowledge is multidimensional and in order to impact comprehension words must be understood on multiple levels (Beck & McKeown, 2007; Nagy & Scott, 2004).

In a related study, Coyne and his colleagues (2009) compared the difference between two interventions. One focused on embedded vocabulary instruction intended to promote breadth of vocabulary knowledge and the second centered on extended instruction intended to promote depth of vocabulary knowledge. Embedded instruction was described as “vocabulary instruction that introduces target words in a time-efficient manner.” Extended instruction provided “multiple opportunities to interact with target words outside the context of the story” (Coyne, et al., 2009, p.1). The study utilized a within-subjects design, meaning that all of the participants (42 kindergarten students) in the intervention received the same instruction. The two within-subject factors were type of instruction and time between posttest and delayed posttest. The researchers selected nine targeted words from a storybook. The words were selected based upon their familiarity to kindergarten students and their placement in the text. The researchers wanted to select words that were unfamiliar to the participants, but that had meanings they could understand (Coyne, et al., 2009). Selection of words utilized the Tiered system of vocabulary classification developed by Beck and her colleagues (2002). Words selected for the study were classified as Tier Two words that are recommended for direct instruction in primary learners. Three of the words were taught using extended instruction, three words were taught using

embedded instruction, and three of the words were taught using incidental exposure (Coyne et al., 2009).

Measures used included both researcher-developed assessments to test expressive and receptive word knowledge of the nine targeted words and the Peabody Picture Vocabulary Test (PPVT; Dunn & Dunn, 1997) to assess general vocabulary knowledge. Data collection included a pretest, posttest, and delayed posttest. Findings of the study indicated that extended instruction of vocabulary words resulted in a deeper understanding of word meanings and embedded instruction resulted in incomplete knowledge of target words, with no effect for the passage of time (Coyne et al., 2009). The findings of the study were consistent with the findings of other studies that support the direct teaching word meanings with increased instructional time and through storybook reading (Beck & McKeown, 2007; Penno et al., 2002). The study results also suggest that limited exposure to targeted words led to measureable word learning for two-thirds (6 out of 9) of the targeted words. The researchers suggest that there is a place for both embedded and extended instruction in the primary classroom. They support a three-tiered approach that includes reading storybooks to children that contain text on a variety of levels, embedded instruction during storybook reading for a specific set of words, and extended instruction for additional set of words from the story (Coyne, et al., 2009).

Silverman (2007) evaluated the ability of kindergarten students to learn new vocabulary within the context of three methodological approaches. The first method used for one treatment group involved contextual instruction, described as discussions about the read-aloud and the context of identified vocabulary within the text. The second method administered to another treatment group included contextualized instruction with the addition of analytical instruction.

This treatment allowed for the addition of practice in using the vocabulary words in new contexts, opportunities to compare and contrast word meanings, and structured activities designed to have the students determine the appropriateness of the vocabulary words in a new context. The third method administered to the final treatment group included contextualized instruction (method one) and analytical instruction (method two) with the addition of anchored instruction. Anchored instruction analyzed the phonological and orthographic aspects of the identified vocabulary words. During vocabulary instruction, the teachers discussed the target words in the context of the story and through the personal experiences of the students. They also analyzed the letters and sounds that formed the words (Silverman, 2007). Each treatment was used within two of six kindergarten classrooms participating in the study. Words were selected for instruction based upon the Tiered System developed by Beck and McKeown (2002).

Treatment one results indicated that engaging children in analysis of word meanings was more effective than the use of context alone (Silverman, 2007). Results of treatment two confirmed that engaging children in analysis of words beyond the context of the presented text of the story was more effective for developing vocabulary knowledge than discussion of vocabulary from the story context alone. Additionally, a percentage of the same students were evaluated six months later to determine if the effects of the treatment were consistent without the continuation of instruction. The results were consistent over the six-month time period between studies (Silverman, 2007). These research studies strongly support the use of children's literature in vocabulary instruction for primary learners.

Children's literature and vocabulary instruction. The benefits of using children's literature in the form of a read aloud for direct vocabulary instruction results in increased

vocabulary knowledge and improved comprehension (Beck & McKeown, 2007; Biemiller & Boote, 2006; Brabham & Lynch-Brown, 2002; Coyne et al., 2009; Penno et al., 2002; Silverman, 2007). Direct instruction embedded in the context of children's literature improved vocabulary acquisition of primary-aged learners (Silverman, 2007). Additionally, with the incorporation of activities and instruction that encouraged the contextualization of vocabulary beyond the text of the stories, students were able to demonstrate greater gains in overall vocabulary knowledge. When instruction goes beyond the traditional casual mention of vocabulary during the course of a read aloud and includes the incorporation of rich instructional that promotes the use of vocabulary in unique and varied contexts, emergent readers can increase and improve their vocabulary knowledge.

The reading aloud of children's literature is an activity that often begins at home and continues throughout primary education. Research studies show a direct link between early read-aloud experiences and vocabulary development (Beck & McKeown, 2007; Biemiller & Boot, 2000; Brabham & Lynch-Brown, 2002; Coyne et al., 2009; Penno et al., 2002; Silverman, 2007). Children's books provide opportunities to navigate social, emotional, and intellectual aspects of childhood through the safety of a book. I once heard author Katherine Patterson, author of *The Bridge to Terabithia*, say in a radio interview that "the books you read in childhood are a great rehearsal for things you experience in life." The children's section of any library or bookstore displays a wide array of topics and situations that are encountered in life. Furthermore, as an instructional tool, these books provide a wealth of vocabulary that can be used to further develop reading skills (Beck & McKeown, 2007; Biemiller & Boot, 2006; Brabham & Lynch-Brown, 2002; Coyne, et al., 2009; Penno, et al., 2002; Silverman, 2007).

Vocabulary instruction within the primary grades can be enhanced through the use of trade books as “read alouds,” but in order to be an effective tool for vocabulary acquisition, the teacher must engage the students beyond simply reading the text aloud. Often, teachers will read the same text several times without benefit of instruction or discussion in an attempt to emphasize the content and vocabulary (Biemiller & Boote, 2006). However, researchers have found that repeated readings of more than three times often resulted in boredom on the part of the students (Biemiller & Boote, 2006). Intervention studies that had the greatest impact on vocabulary acquisition were those that used trade books beyond the children’s independent reading level and included activities that allowed students to actively use the vocabulary in a variety of contexts (Beck & McKeown, 2007; Biemiller & Boot, 2006; Brabham & Lynch-Brown, 2002; Coyne, et al., 2009; Penno, et al., 2002; Silverman, 2007).

Contextualization aids the teacher in the presentation of new vocabulary and also provides a springboard from which to initiate conversations around vocabulary (Beck & McKeown, 2007; Biemiller & Boot, 2000; Brabham & Lynch-Brown, 2002; Coyne, et al., 2009; Penno, et al., 2002; Silverman, 2007). Researchers who studied the effectiveness of presenting new vocabulary through the context of children’s literature found that children show gains in vocabulary development when instruction was expanded through: (a) repeated readings of the text (Biemiller & Boote, 2006), (b) teacher led discussion (Brabham & Lynch-Brown, 2002), (c) embedded instruction (Coyne, et al., 2009) and (d) additional instructional activities related to the new vocabulary (Silverman, 2007).

Professional Development

In order to provide a link between vocabulary research and practice, it is essential to determine first what features of professional development have a significant positive effect on teacher knowledge and skills. Secondly, it is necessary to evaluate what practices, specifically related to the teaching of vocabulary, are most effective when implemented within the classroom.

Effective professional development significantly impacts teacher practice and knowledge (Wayne, Yoon, Zhu, Cronen, &Garet, 2008). Features of effective professional development include: (a) a focus on specific content knowledge; (b) engagement in active learning opportunities; (c) inclusion of collective participation; (d) have goals that are coherent with teachers' goals; and (e) are of a duration that allows for in-depth study of content (Garet, Porter, Desimone, Birman, & Yoon, 2001; Porter, Garet, Desimone, Yoon, & Birman, 2000; Wayne et al., 2008). These features are also evident in NCLB (2001) which described professional development as being of high quality if it contained the following five criteria:

1. It is sustained, intensive, and content focused so to have a positive lasting impact on classroom instruction and teacher performance.
2. It is aligned with and directly related to state academic content standards, student achievement standards, and assessments.
3. It improves and increases teachers' knowledge of the subjects they teach.
4. It advances teachers' understanding of effective instructional strategies founded on scientifically-based research.

5. It is regularly evaluated for effects on teacher effectiveness and student achievement.

(Yoon et al., 2007, p. 2)

Much of the research on effective professional development has come from studies conducted through The Eisenhower Professional Development Program, Title II of the Elementary and Secondary Education Act (ESEA), which is a federally funded program “focused on developing the knowledge and skills of classroom teachers” (Porter et al., 2000, p.5). The primary focus of the allocation of funding is to support professional development in science and mathematics, but in other content areas as well. The goal of the Eisenhower Professional Development Program is to fund professional development that enhances teacher practice and improve student outcomes (Porter et al., 2000).

One key area of debate found in the professional development research is on the effects of “reform” models of professional development versus “traditional” models of professional development (Garet et al., 2001). Reform professional development models differ from the traditional workshop approach by focusing less on direct instruction and more on study groups, mentoring, and coaching (Garet et al., 2001). Traditional professional development models range greatly in the amount of time identified for instruction and often take place apart from the classroom at conferences or during after school training sessions. Reform professional development models take place in the classroom during instructional periods and offer one-on-one contact with a mentor or trainer, allowing connections to be made directly to teacher practice (Garet et al., 2001; Porter et al., 2000). Professional development designed following a reform model comes at a greater cost to school systems and requires expertise in coaching not usually required in traditionally designed professional development (Wayne et al., 2008). The degree of

effectiveness between the two models has been found to be more an issue of duration than design. Reform model professional development goes beyond an isolated workshop and provides support of a longer extended period of time than traditional professional development (Garet et al., 2001). “Traditional and reform activities of the same duration tend to have the same effects on reported outcomes, and there is considerable overlap in span and contact hours for the two forms of activities (Garet et al., 2001, p. 936).

Evaluation of successful professional development in foreign countries (e.g. Japan and China) found one key component of foreign professional development that is typically missing in professional development in the United States; the interactions between the teachers themselves (Darling-Hammond, 2005). It is customary for teachers in Japan and China to divide their time equally between teaching their students and developing curriculum or refining practice (Darling-Hammond, 2005). The opposite is true for schools in the United States where virtually no time is allotted for collegial work or curriculum planning (Darling-Hammond, 2005; Wayne et al., 2008; Yoon et al., 2007). Often professional development for US teachers is scheduled after school or on weekends through workshops or courses. When teachers are provided with opportunities to work together to discuss and develop strategies to use within their classrooms, there is a greater impact on their instructional practices (Darling-Hammond, 2005).

Another component of successful professional development in foreign countries was the acceptance of instructional frameworks by the school systems to improve instructional practices. When implemented within the United States, instructional frameworks have been favorably accepted by teachers because they provide a consistency between classrooms and grade levels (Darling – Hammond, 2005; Fisher & Frey, 2007).

A body of research studies that specifically addresses the use of intervention as a key component of the professional development design is found in literacy research (Fisher & Frey, 2007; Kennedy & Shiel, 2010; Powell, Diamond, Burchinal, & Koehler, 2010; Quick, Holtsman, & Chaney, 2009; Wasik & Bond, 2001; Wasik, Bond, & Hindman, 2006; Wasik, 2010). These studies combine on-site professional development training with intensive mentoring.

Wasik and her colleagues Bond and Hindman, have conducted research studies into the impact of professional development intervention on preschool and low-income students (Wasik & Bond, 2001; Wasik et al., 2006; Wasik, 2010). Specifically, they began their research to examine the impact of shared book reading combined with extension activities on young at-risk preschool children. The motivation for their studies was the documented lack of vocabulary and literacy skills of at-risk preschoolers (Hart & Risley, 1995).

Wasik and Bond (2001) in an early study selected one hundred twenty-seven four year olds and four teachers from a Title 1 learning center in Baltimore, Maryland to participate in an intervention study based on interactive book reading. The students and teachers were divided into two control and two intervention groups for the duration of the fifteen week study. The teachers in the intervention group were provided with professional development in the interactive book reading strategy which included (a) defining vocabulary words, (b) open-ended questioning, and (c) open discussion. The strategy was modeled for the teachers and they were trained in the interactive strategies. They were also provided with a box of materials which included books, props, and materials to use during instruction. The teachers in the control group were given the same books and instructed to read the books the same number of times as the teachers participating in the intervention. They were not trained in the interactive book reading strategy.

To evaluate the success of the intervention, student participants were evaluated using the PPVT-III (Dunn & Dunn, 1998) to establish a baseline. Following the intervention, the participants were given the PPVT-III (Dunn & Dunn, 1998) again along with a researcher created assessment of receptive vocabulary based on a subset of words selected for instruction during the intervention. Results indicated that the children who were taught using the interactive book reading strategy not only learned more of the book-related vocabulary words but also scored significantly better on the PPVT-III ((Dunn & Dunn, 1998) when compared to students in the control group. The researchers hypothesized that the intervention training received by the teachers changed their interaction patterns with students which positively impacted the vocabulary development.

This hypothesis was tested on a subsequent nine-month study (Wasik, Bond, & Hildman, 2006) that utilized a larger sample including 16 teachers (10 in the intervention group/6 in the control group) and 207 children (139 in the intervention group/68 in the control group). The materials used in Wasik and Bond (2001) were altered for the Head Start program and for use with a larger group of teachers. They were still provided with boxes containing books and props. The teachers identified to participate in the intervention were provided with professional development on the interactive book reading and oral language strategies. Training went beyond the training provided in the earlier study (Wasik & Bond, 2001) and included expanded instruction in discussion and vocabulary to promote language development. Additionally, the study included a coaching model which provided both oral and written feedback to the intervention participants to ensure strategy mastery.

Assessment of student participants included the PPVT-III (Dunn & Dunn, 1997) and Expressive One-Word Picture Vocabulary Test (EOWPVT-III, Brownell, 2000). Teacher

assessment included observed story book reading at the beginning (baseline data) and end (posttest measure) of the study for comparison. In addition, a record of teacher questioning was collected to evaluate for change in questioning following participation in the intervention. Results indicated that children who participated in the intervention groups performed significantly better during post-assessment than those in the control group. A positive correlation was made between teachers' use of strategies and questioning and children's language skills.

The training provided to the Head Start teachers went beyond instruction on the strategies but included intense professional development including a coaching model that enhanced their conversation and story book reading strategies. The teachers were engaged in training the not only told them how to implement the strategies but why they were needed. Again, by providing engaging teachers in intervention type professional development combined with coaching led to greater student gains.

Wasik (2010) has furthered research in this area through a professional development program entitled the Exceptional Coaching for Early Language and Literacy (ExCell) which has been implemented and evaluated through funding from Early Reading First. The program has two primary components, training in five specific modules related to vocabulary/literacy skills and individual coaching to allow for integration of the models into their instructional practice. The five modules include; (a) interactive book reading, (b) guiding conversations across the curriculum, (c) phonological awareness, (d) alphabet knowledge, and (e) writing. Included within this model is monthly group meetings and group training. The design of this model supports both the needs of the students as learners and the teachers as instructors to improve the outcome of literacy skills for at-risk students (Wasik, 2010).

On-site professional development combined with school or grade-level commitment often leads to positive outcomes in literacy development of students (Fisher & Frey, 2007; Kennedy & Shiel, 2010). By providing on-site professional development that engages teachers throughout a building or grade-level, establishes a professional learning community that supports the teachers during the process of change (Kennedy & Shiel, 2010). This was true for a professional development intervention study that was initiated in an urban school in Dublin, Ireland. The researcher/facilitator worked together with the teachers during professional development sessions to “discover what could work in the school context” (Kennedy & Shiel, 2010, p. 374). The goals established by the teachers and facilitator were related to improving the overall writing ability of the first-grade students in the building.

The professional development design included interactive sessions designed to introduce new methodologies, the inclusion of readings on content and pedagogy provided to the teachers prior to each session, and an open forum for discussion and debate of materials provided. Additionally, the facilitator would visit classroom periodically to both observe and demonstrate the components of the instructional program. On-going assessment was achieved through the monitoring of standardized test scores. The assessments also provided documentation of individual student’s strengths and weaknesses.

The outcomes of the intervention included an increase in self-efficacy and expertise among the teachers who participated, the establishment of a professional learning community within the school, and higher expectations on the part of the teachers for their students. Additionally, there was a standardized reading test score increase of over one standard deviation from February to June. The researcher emphasized that the relationship established between the teachers and the facilitator combined with the on-site intensive professional development

enhanced the outcomes for the teachers and changed their instructional practices (Kennedy & Sheil, 2010).

Professional development specifically designed for vocabulary instruction must include the key characteristics identified in professional development with the addition of specific components related to the development of vocabulary knowledge (Berne & Blackowicz, 2008). Specifically, vocabulary professional development must focus on the strategies that allow for greater success in the development of vocabulary knowledge. According to the teachers surveyed by Berne and Blackowicz (2008), the most effective instructional strategies include focusing on word relationships or word parts, the reading aloud of high quality children's literature and information texts, and the implementation of word games and activities. Other effective strategies included the "use of word walls, classroom talk, and integration with content area studies" (Berne & Blackowicz, 2008, p. 317).

In addition to the types of instructional strategies presented during vocabulary professional development, the duration, and coaching following the professional development impact the success of the training (Darling-Hammond, 2005; Dickinson & Caswell, 2007; Fisher & Frey, 2007; Wasik & Bond, 2006). The incorporation of in-classroom observation and feedback allows for the teachers to more fully utilize the instructional strategies presented and to voice challenges faced when implementing the use of the strategies. This "reform" type intervention model in vocabulary professional development limits the inclination of the teachers to set aside the new material learned in favor of existing instructional practice (Walpole & Blamey, 2008). One key component of this model is coaching that takes place during implementation of strategy instruction. Literacy coaches, in the implementation of professional development, provide teachers an in-class resource and a one-on-one connection that supports

the incorporation of new strategies into daily literacy practices (Walpole & Blamey, 2008). The roles addressed by these coaches include: (a) trainer, (b) assessor, (c) formative observer, (d) teacher, and (e) modeler (Walpole & Blamey, 2008).

In summary, the essential components of successful professional development depend less on the model (traditional versus reform) and more on the duration and quality of the instruction. It is essential that those who are providing professional development follow through on the training through observation and support (Darling – Hammond, 2005; Fisher & Frey, 2007). Furthermore, the incorporation of effective professional development practices leads to positive improvements in teacher instruction (Garet et al., 2001; Porter et al., 2000; Quick, Holtzman, & Chaney, 2009; Wayne et al., 2008; Yoon et al., 2007).

Conclusion

The conclusion drawn from this review of literature is that the most effective way to improve the acquisition of vocabulary in primary learners is to expose them to a greater variety of decontextualized language through children’s literature. This exposure, combined with strategies to further their ability to “know” a word, can aid in the development of more complex working vocabulary knowledge. Critical to the success of an intervention directed at improving practice is to identify current practices and improve on their instructional relevance. The reading of children’s literature is a daily practice within most primary classrooms that is often untapped for its value to promote the learning of vocabulary. It is from this standpoint that the professional development and instructional intervention for this study were designed. Additionally, designing professional development that contains the key features of effective

practices in professional development and sustains teachers over an extended duration of time will lead to the best outcomes in relation to changes in teacher practice.

Chapter 3: Methodology

This study was designed to address one primary question; how is professional development integrated into current instructional practice related to the teaching of vocabulary? Several sub-questions were also addressed; (a) what are primary teachers' perspectives on vocabulary instructional practices?, (b) what are primary teachers' current vocabulary instructional practices?, (c) how are existing practices enhanced following participation in professional development?.

Formative Design Framework.

The participants, site, data collection, data analysis, and limitations are each addressed in relation to the phases within the overall framework of a formative experiment (Reinking & Bradley, 2008). Formative design was selected as the research methodology for this study because it allows for a narrowing of the gap between research and practice by connecting the findings of other methodologies such as quantitative or qualitative and teachers' work in the field (Duke & Mallette, 2004). This design for the study allowed for the collection of baseline data on current instructional practices to inform the design of the intervention. Additionally, the formative design framework allows for the modification of the intervention based upon the results of on-going data collection and analysis. As the teachers progressed through the study, they had the opportunity to give feedback on the strategies presented, to modify the strategies presented, and to receive feedback on instructional practice based on observations.

“The emphases in this methodology are on what it takes to achieve a pedagogical goal, a theory that establishes its value, and the factors that enhance or inhibit the effectiveness of the

intervention” (Ivey & Broaddus, 2007, p. 515). The key to the current study was in setting and achieving a pedagogical goal that would positively impact the vocabulary instruction practices of the participants. Formative experiments are designed to find workable instructional interventions that impact pedagogy. The current study follows the framework devised by Reinking and Bradley (2008) and includes seven key components.

Intervention. The instructional intervention is the heart of any formative design experiment. The instructional intervention is always set in an authentic educational context and seeks to address an area of instruction that is seen to be problematic. Furthermore, the intervention can come from a well known researched methodology or designed specifically for the instructional environment within which it is set to take place. Regardless of the design of the intervention, the key is that it be studied within an authentic instructional environment (Reinking & Bradley 2008).

Theoretical. Formative design experiments are guided by theory and a quest for theoretical understanding. Specifically, the researcher is seeking to determine the effectiveness of the intervention in relation to the pedagogical goal and theory. The research done within the authentic instructional context allows for examination of the conditions that either enhance or inhibit the effectiveness of the intervention and generates theoretical understanding (Reinking & Bradley 2008).

Goal oriented. Formative design experiments are in essence a goal-directed investigation on improving educational practices and learning. “The goal may be important because it addresses an intractable instructional problem, a gap in the curriculum, a neglected area of instruction, and so forth” (Reinking & Bradley, 2008, pp. 19-20). The focus is not on

testing or establishing theory, as in other methodologies, but on reaching a pedagogical goal within an authentic context (Reinking & Bradley, 2008).

Adaptive and interactive. Conventional researchers are seeking to establish fidelity in their research which requires close attention to how the intervention is carried out among participants to strengthen their degree of internal validity. The opposite is true for formative design experiments. The intervention in a formative design experiment is intended to adapt to the variability of the environment and population for which it is designed. It is this ability to adapt instructional practices is what good teachers do on a daily basis and it is this adaptability that provides data to support achievement of the pedagogical goal (Reinking & Bradley, 2008).

Transformative. The goal of any formative design experiment is to positively transform the environment within which the intervention has taken place. The ability to transform an environment to achieve a pedagogical goal lends formative design experiments to improve classroom instruction and student outcomes. The researcher must be willing to address positive and negative effects that are a result of the intervention and transform the learning environment.

Methodologically inclusive and flexible. Formative design experiments, due to their flexible nature, can include any approach to data collection and analysis. Methodologies selected by the researcher must be flexible and inclusive to allow for unanticipated developments during the collection and analysis of the data. Formative design experiments allow for the collection of quantitative data for before and after comparisons but also benefit from the collection of qualitative data that represents the changes that have taken place as a result of the intervention. Therefore, formative design experiments are compatible with mixed method studies (Reinking & Bradley, 2008).

Pragmatic. The focus of a formative design experiment is on creating conditions that allow interventions to succeed and seeks theory that is useful to practitioners (Reinking and Bradley, 2008). The overall all focus is a practical one, which is to find solutions to educational problems and to reach a pedagogical goal. The results of the research are aimed at helping practitioners with a focus on “consequential validity where results have demonstrated the value in improving instruction” (Reinking & Bradley, 2008, p. 22).

Formative Experiment Design Framework

To address the research questions, the framework of Reinking and Bradley (2008) was utilized. The designers of this framework established an organizational scheme that allows the researcher the opportunity to “systematically and explicitly conceptualize, conduct, and report research” (2008, p. 73). The following are the six specific questions which guide this framework:

- 1) What is the pedagogical goal to be investigated, why is that goal valued and important, and what theory and previous empirical work speak to accomplishing that goal instructionally?
- 2) What intervention, consistent with a guiding theory, has the potential to achieve the pedagogical goal and why?
- 3) What factors enhance or inhibit the effectiveness, efficiency, and appeal of the intervention in regard to achieving the set pedagogical goal?

- 4) How can the intervention be modified to achieve the pedagogical goal more effectively and efficiently and in a way that is appealing and engaging to the stakeholders?
- 5) What unanticipated positive and negative effects does the intervention produce?
- 6) Has the instructional environment changed as a result of the intervention?

(Reinking & Bradley, 2008, p. 74-77)

Each of these questions will be addressed as a component of the study and within conclusions drawn from the research.

Pedagogical goal and significance to study. The goal of this study was to improve teachers' vocabulary instructional practices through professional development and to evaluate the impact of the professional development on vocabulary teaching practices. The intervention was designed around teaching practices designed to assure student "knowing" of a word and the ability to recognize the word in varying contexts, use the word in language, use the word in writing, and to allow for its acquisition into a child's working vocabulary knowledge. This theory is grounded in the work of Nagy and Scott (2004) and included in the literature review section of this paper.

The ability to "know" a word goes beyond the ability to define it. Aspects of "knowing" a word include the incremental nature of word learning, multidimensionality, polysemous, interrelatedness of words, and heterogeneous characteristics (Nagy & Scott, 2004). This knowledge is essential to the understanding of the importance and complexity of vocabulary building and a cornerstone of the intervention in this study. In order for the students to add to their working vocabulary knowledge, the words identified for instruction must go beyond a

casual mention and be presented in multiple contexts and in a manner that supports relating new terms to current knowledge.

Intervention design. The intervention was designed to include the presentation of two professional development sessions followed by observations and group meetings. The professional development sessions included the presentation of theory surrounding the development of vocabulary knowledge (Nagy & Scott, 2004) and instructional strategies to enhance word learning.

The first professional development session included a sharing of research studies that supported the direct and explicit teaching of vocabulary words to primary learners (Nagy & Scott, 2004). The intention of sharing this literature was establish the importance of the pedagogical goal with the teachers.

The session included a thorough description of the three tiered system of vocabulary classification (Beck et al., 2002, 2008) including Tier 1 (basic/familiar words), Tier 2 (high-frequency words), and Tier 3 (content specific words). The participants worked in small groups to classify words from trade books that represented each Tier. A strategy for initial assessment of vocabulary words knowledge entitled “Stoplight Vocabulary” (Lubliner, 2005) was also explained and modeled for the participants along with a strategy, entitled “Stop Sign Cue Card” which presented steps to addressing unknown vocabulary during the reading of text.

The second session of the professional development began with a review of the strategies and materials covered in the first session with the addition of more vocabulary instructional strategies. The strategies presented included “Kid-Friendly Definitions” (adapted by the researcher from Beck et al., 2002), “re-building the word wall” including activities to engage students in interaction with the word wall, “word wizardry” (Beck et al., 2002), and finally

“zooming in and zooming out” (Harmon & Hendrick, 2000). Each strategy was presented, modeled, and practiced by the participants.

The intervention also included observations and bi-weekly group meetings following the professional development sessions to evaluate implementation of the strategies and provide support for the teachers during implementation. Field-notes were collected during observations, transcribed, and shared during group meetings to initiate discussion and modification of the strategies. The group meetings were intended to provide support and an opportunity to modify and discuss the intervention strategies.

Phases of the formative design experiment. Formative experiments follow a time line that allows for the implementation of an intervention based upon data collection through specific phases of the research development. The five phases of the formative design experiment are described below and were adapted from the phases presented by Reinking and Bradley (2008) to outline the current study.

Phase One: Recruitment of school, teachers, and negotiation of plans to set goals of the project as well as obligations and responsibilities of those involved.

Phase Two: Collection of baseline data and analysis.

Phase Three: Professional development and intervention implementation including on-going data collection and analysis.

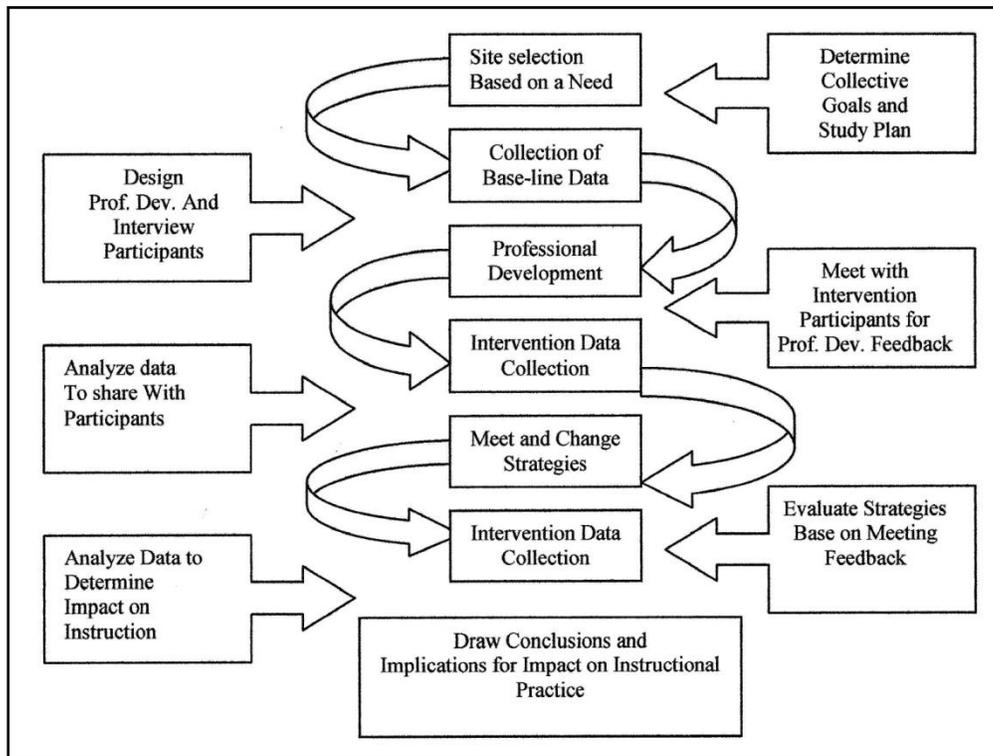
Phase Four: Comparison between baseline data and intervention data.

Phase Five: Consolidation of findings and summary of results.

(Reinking & Bradley, 2008)

The presentation of professional development and the collection of data are cyclical in nature and were in a constant state of modification. Figure 1 demonstrates the cyclical nature of the data collection, professional development, and intervention of the study.

Figure 1: Cyclical Nature of the Formative Design Experiment



As the study progressed, teacher input and on-going data analysis allowed for modifications to components of the study. As field notes of observational data were collected, they were analyzed to share with the teachers during group meetings. The continuous collection and analysis of data provided the catalyst for discussions with the teachers on changes made to instructional strategies. This process was cyclical and continued throughout the professional development and intervention phase of the study. The timeline followed is found in Table 1 below.

Table 1: Research Study Timeline

Dates	Action Taken	Data/Materials Collected
March 2008	Met with Building Administrator to establish common goals.	Received IRB approval for collection of baseline data.
April 2008	Met with primary teachers. 4 of 5 first-grade and 4 of 5 second-grade teachers agreed to participate in the collection of baseline data.	Met individually with teachers to discuss study and obtain informed consent from participants.
April 2008- May 2008	Scheduled observations with the eight participants. Observed each participant an average of two times. Completed a total of 19 (30 to 60 minute) observations.	Collected survey data and field notes from observations regarding perceptions of vocabulary development and vocabulary instructional practices.
September 2008 – December 2008	Completed baseline data analysis looking for perceptions student vocabulary knowledge, current vocabulary practices, and areas of identifiable weakness in logic or instruction.	Received IRB approval for collection of professional development and intervention study data collection.
January 2009	Met with building administrator to discuss findings and establish professional development and intervention plan. Determined that four of the original eight participants would be able to participate in professional development and intervention.	Met individually with participants to discuss study and obtain informed consent.
February 2009	Interviewed participants prior to the professional development sessions. Conducted two professional development sessions on vocabulary research and effective instructional strategies.	Transcribed pre-intervention interviews. Collected feedback from professional development participants.
March 2009-May 2009	Conducted the intervention portion of the study. Met with participating teachers on three separate occasions to conduct bi-weekly group meetings. Collected twenty separate observations of the four participating teachers.	Collected and transcribed field notes from 20 observations. Analyzed data to share with participants during bi-weekly group meetings. Collected field notes on group meetings to analyze.
June 2009	Met individually with teacher participant to conduct post-intervention interviews.	Transcribed post-intervention interviews for analysis.

Data collection and analysis. Two sets of data were collected during the study. Baseline data collected included teacher surveys and field notes from observations. These data were analyzed using the constant comparative (Denzin & Lincoln, 1994) to inform the design of the

professional development and intervention in 2008. The second set of data were collected during the professional development and intervention component of the study and included interviews prior to and following the professional development and intervention phase of the study, field notes from observations, transcribed tapes of group meetings, student work samples, and weekly summary sheets. The data collected as they relate to the research questions are summarized in Table 2.

Table 2: Questions and Data Sources

Questions:	Data Source (s):	Collection:
Primary Question: How is professional development integrated into current instructional practice related to the teaching of vocabulary?	<ul style="list-style-type: none"> • Field Notes Based on Observations • Interview Transcripts • Group Meeting Transcripts and Field Notes 	Intervention Data Collection February – June 2009
Subsidiary Question One: What are primary teachers' perspectives of their vocabulary practices?	<ul style="list-style-type: none"> • Baseline Survey Results • Baseline Field Notes Based on Observations 	Baseline Data Collection April – June 2008
Subsidiary Question Two: What are primary teachers' current vocabulary instructional practices?	<ul style="list-style-type: none"> • Baseline Survey Results • Baseline Field Notes Based on Observations 	Baseline Data Collection April – June 2008
Subsidiary Question Three: How are existing practices enhanced following participation in professional development?	<ul style="list-style-type: none"> • Observations • Group Meetings • Interviews 	Intervention Data Collection February – June 2009

As qualitative pieces of the data set were collected, they were transcribed and analyzed based upon the constant comparative format from Strauss and Corbin (1990). The key to the data analysis was the reading and re-reading of all pieces of the qualitative data set and establishing a system for coding (writing in the margins, noting key information) and breaking

this information down into themes and categories. These data supplied information related to whether or not the intervention was achieving the pedagogical goal.

Transcriptions of audio-tapes of the bi-weekly intervention meeting were analyzed to determine what changes needed to be made to the intervention to meet the needs of the participants involved. The analysis of data collected during formative experiments opens itself to adaptation during the course of the intervention as does the intervention itself. The researcher allowed for the adaptation, change, and expansion of the methods used in data analysis in response to the data collected. Data analysis should be “formative” in nature as well (Reinking & Watkins, 2000). The details of data collection and analysis results are reported in chapter four in the section entitled “Phase Four: Comparison between Baseline Data and Intervention Data.” This section provides details related to the reaching of the pedagogical goal.

Summary

The essential components of a formative design experiment are the setting of a pedagogical goal, selection of theory that establishes the value of the goal, and the factors that enhance or inhibit the reaching of the pedagogical goal (Ivey & Broaddus, 2007). The pedagogical established for this study was to improve teachers’ vocabulary instructional practices through professional development and intervention and to evaluate the impact of the professional development and intervention on vocabulary teaching practices. This was accomplished through the collection of baseline data to establish knowledge of existing instructional practices and to use this data to develop an intervention that could improve these practices.

The theory which established the importance of this goal was the theory of word knowledge proposed by Nagy and Scott (2004). Word knowledge is incremental and requires multiple interactions with new vocabulary to incorporate the words in the students working vocabulary. The strategies selected for presentation to the participants provided opportunities for multiple interactions with new vocabulary through incremental steps.

An intervention including the presentation of professional development was conducted to instruct the participants on work knowledge theory and strategies to enhance vocabulary instructional practices. During the professional development and intervention phase, data were collected including interviews, observations, student work samples, and transcripts of group meetings to allow for analysis of effectiveness of the intervention at reaching the pedagogical goal.

Data analysis was on-going and utilized the constant comparative method of data analysis (Strauss & Corbin, 1990). As data were collected and analyzed they were shared with participants to allow for the adaptations to be made to instructional strategies. The cyclical nature of the collecting and analyzing data allowed for the intervention to be both adaptive and interactive based upon the needs of the participants. The following chapter addresses each phase of the study including data collection and analysis that accompanied the individual phases.

Chapter 4: Baseline Data and Professional Development

This chapter provides a chronological development of the study as it progressed through the specific phases. It is organized under headings for each phase and contains a thorough description of what happened during each phase, data collected during the phase, and analysis of the data collected. The goal of data analysis in a formative design experiment is to examine the success of the intervention at reaching the pedagogical goal, factors which enhanced or hindered reaching the goal, and changes made over the course of the study to enhance the intervention (Reinking & Bradley, 2008). The cyclical nature of the formative design experiment allows for modifications to the intervention over the course of the study.

Phase One: The Preliminary Phase

The first phase of this experiment involved locating a site for the study, identifying participants, negotiating the responsibilities of those involved, and setting the study goals (Reinking & Bradley, 2008). South Elementary School was selected for the study based upon a common goal, improving vocabulary instruction for primary learners. The site had recently begun an initiative to positively impact the vocabulary instruction in the intermediate grades (third through fifth) but had and expressed need and sought assistance in addressing vocabulary instruction in the primary grades. The goals established for the study through collaboration between the building administrator and the researcher were to (1) provide the teachers with sound theoretical knowledge in how vocabulary is developed and strategies to help their students gain vocabulary knowledge, and (2) evaluate the use of the professional development on enhancing vocabulary teaching practices. It was believed that by providing teachers with sound

theoretical knowledge and improving their instructional practices, student learning would be impacted and vocabulary knowledge would be gained..

South Elementary School was built in 1972 and was considered very modern for that time period. Designed as an open concept school, each grade level was situated within one very large classroom with a teacher work room and set of restrooms in the center. Sections of the large common area were sectioned off through the use of bookshelves and cubbies to establish individual classrooms. The population of the school averaged 525 students with 33% of students receiving free and reduced lunches. In recent years, South Elementary School has struggled to meet state standards. The school was part of a large southwestern Virginia school district, but is located within the confines of a small suburban town. It was common for multiple generations of family members to have attended South Elementary School. Much of the population was working class and had strong long-term roots in the community.

The primary teachers were approached by the researcher and administrator to evaluate possible interest in participation in the vocabulary study project. First, the administrator introduced the study during the course of a faculty meeting and then the researcher contacted the primary teachers. Four out of five first-grade and all four second-grade teachers agreed to participate in the collection of Phase Two baseline data. The building administrator asked that the professional development component of the study be available to all teachers in the building for the purpose of including other teachers who had expressed interest in participation.

The researcher met with the administrator and then with the teachers to make collaborative plans for the collection of both observation and survey data to establish a baseline of instructional practices. An IRB application was completed and approved to allow for

initiation of data collection. The purpose of preliminary data collection was to establish baseline information on teacher choices of vocabulary to be taught, instructional practices used, and perceptions about the acquisition of vocabulary.

Phase Two: Baseline Data Collection and Analysis

In Phase Two of the formative study design experiment, field notes of observations and surveys were collected to provide baseline information on the participants in relation to the goals of the study. The teachers were contacted individually to obtain informed consent (see Appendix A). Observations were scheduled via email. The researcher requested to conduct observations during times when vocabulary instruction was scheduled to occur. Each observation was scheduled for thirty to sixty minutes and agreed upon by the researcher and participant. Instructional content observed included read alouds, spelling lessons, creative writing, science, social studies, and small reading groups.

Additionally, the teachers were asked to complete an anonymous ten-question survey. The observational and survey data were analyzed separately and then compared using a constant comparative method (Denzin & Lincoln, 1994) to establish baseline knowledge on instructional practice and to inform the development of the professional development and intervention. Constant comparative analysis procedures were chosen because they provide a method of data analysis that includes identification of incidents, events, and activities which can subsequently be compared until categories can be specified and verified as having common characteristics (Creswell, 1998).

Survey data. The survey was designed by the researcher to specifically collect data within the selected site and was not field tested. The questions included two demographic qualifiers: grade level and years of experience. The ten questions included the following:

- One multiple-choice question related to the selection of vocabulary for instruction.
- Two yes/no questions focused on instructional practice and the use of vocabulary words in spelling instruction.
- Eight open-ended questions were designed to elicit responses related to the selection of vocabulary words targeted for instruction, current instructional practices, beliefs related to the learning of vocabulary, the use of vocabulary instruction strategies, and impact of the school-wide vocabulary initiative (see Appendix B).

Survey data were organized into the following categories: demographic data, beliefs and methodologies, and vocabulary instructional practices.

Demographic data. Six of the eight participants completed and submitted their surveys prior to conclusion of the initial phase of data collection. The surveys were submitted anonymously, so it was not possible to determine which of the teachers did not submit their surveys. Demographic data on the six respondents indicated that the participants were evenly split between first- and second-grade teachers, with three respondents from each grade level. Their teaching experience ranged from 0 to 13 years.

Perspectives and methodologies. One teacher referenced a specific methodology/philosophy as the basis for vocabulary instructional practices. The one reference

was to “Gay Su Pinnell’s Four Blocks, (although the four blocks strategy is actually the work of Cunningham and Hall, 1999). The four blocks program includes four segments of reading instruction: guided reading, self-selected reading, working with words, and writing.

Additional responses associated with the teaching of vocabulary reflected an understanding of the importance of vocabulary instruction. One respondent wrote, “I believe students need a rich vocabulary in order to be successful in reading and strong learners across all subject areas.” The sentiment was echoed in the response of another participant who wrote, “Sometimes a student’s life-experiences or (lack thereof) can handicap them in terms of exposure to new vocabulary. Instruction in vocabulary fills in those gaps.” The teachers did not report the reading of any specific books or articles related to vocabulary instruction.

Instructional practices. The teachers indicated that they identified words for vocabulary instruction from the content areas, trade books, and reading texts. The number of targeted vocabulary words per week ranged from six to ten. No criteria were provided for the identification of vocabulary words and responses were solely based on individual teacher responses. References were made to selecting words from spelling, math, science, and social studies.

In the survey, teachers were asked to describe a typical week of vocabulary instruction in their classrooms. Most respondents indicated that they introduced the words prior to the reading of a story, instructed students to alphabetize the words, and required students to copy definitions from the dictionary. Four of six teachers indicated that they asked children to examine the meanings of the words based upon context. Three of the six referenced the use of graphic organizers to support vocabulary learning.

When asked how they assessed students' vocabulary knowledge, responses included a variety of both formal and informal assessments. The teachers specified the use of written assessments, observations, monitoring, and individual assessments. Overall, the responses to the question on assessment were short, with few specific assessment methods identified.

Observation data. A total of 19 vocabulary instructional lessons were observed by the researcher. Observations were conducted by the researcher during pre-arranged vocabulary instructional periods. Each observation lasted for between 30 and 45 minutes. Field notes collected during observations included instructional practices observed, vocabulary words identified for instruction, and vocabulary words posted within the classroom environment. The content of lessons included thirteen language arts/ reading lessons, three spelling lessons, and three science lessons. During the observations, the researcher sat in the back of the room and recorded notes as the lesson progressed. All instructional practices observed were recorded including words identified for vocabulary instruction, interactions between the teacher and her students, instructional materials or strategies used during the course of the lesson, and any list of vocabulary words posted within the classroom environment. Additionally, the teachers often provided copies of resources used during the lesson to the researcher.

Instructional practices. Instructional practices varied by both teacher and grade-level. Across the classrooms, the use of trade books as reading texts was evident. No basal reading series was utilized during reading lessons and students had small baskets of trade books available at their desks for instructional purposes. This school did not prescribe to a basal reader series for reading instruction. Trade books had been collected in book boxes to be accessed by the teachers and were assigned to students based upon their reading group or ability level. These

book boxes were stored in a common work room for each grade level and contained instructional units in which vocabulary words were already identified. The boxes were assembled by the teachers following initial use of the text and as part of a school wide effort.

It was evident in observations that the majority of the teachers coordinated the trade books with current themes. The themes often carried across read alouds, reading group texts, content area lessons, writing lessons, and spelling words. The book boxes had been organized to include books at varying levels on the same topic to be used during directed reading groups, referred to by the teachers as “flex-groups.” The teachers moved students in and out of “flex-groups” based on reading level and individual student needs. The flexibility of the groups allowed for a variety of different groupings within each classroom and across each grade level. Examples of the themes observed included fairy tales, dinosaurs, the life cycle of the frog, and ocean animals.

The transcripts from the 19 observations were compared to evaluate for themes related to the instructional practice. Common characteristics among the lessons included the use of read alouds, dictionary usage, graphic organizers, and creative writing.

Read alouds. Ten of the nineteen lessons observed included the use of a read aloud as a key component of the lesson. Most of the read alouds observed were directly related to the identified theme or unit they were studying. During read alouds, the teachers were observed stopping to give brief definitions of unknown words. As one teacher read aloud the book, *The True Story of the Three Little Pigs* (Scieszka, 1996), she and her students came across the word *framed* in the context of the story. One of the students asked, “What does framed mean?” The teacher replied, “He was made to look like he was guilty.” After the quick reply the teacher

finished reading the story. The word *framed* was not added to the list of vocabulary posted on the board or reviewed later in the lesson.

A similar scenario occurred during another read aloud of, *What Happened to Patrick's Dinosaur?* (Carrick, 1988). As the teacher was reading the text, she and her students came across the word *asteroid*. The teacher stopped reading and asked the students, "Who knows what an asteroid is?" One of her students responded, "A big rock that falls from space." No further discussion of the word *asteroid* was observed during the lesson.

Dictionary usage. Vocabulary instructional practices observed included the traditional practice of copying definitions, writing sentences, and alphabetizing vocabulary words. In four separate observations students were instructed to use a dictionary to find the definitions of identified vocabulary words.

During one second-grade lesson observation, the vocabulary words, peeled, bargain, spoiled, boost, exchanged, and delivered, were written on the board. The teacher began the lesson by calling on individual students to read the words aloud. The teacher reminded the students that these words came from the story, *A Chair for My Mother* (Williams, 1984). After a quick review of the use of guide words, the teacher instructed the students to locate the vocabulary words in the dictionary. For each vocabulary word, they were then to copy the definition, identify a synonym of the word, and use the word in a sentence on a worksheet.

The teacher demonstrated the expectations of the assignment using the word *peeled*. The teacher said to the students, "Think back to how the word was used in the story." She then read the passage from the story, "One time I peeled all the onions for the onion soup." She asked the

students to give her synonyms for the word *peeled* based on the context of the sentence. One student responded with the word *shaved*.

Next, she had a student look up the definition in the dictionary. The student found the word *peel* but not the word *peeled* and read the definition aloud, “the skin.” The teacher reminded the students that *peel* is a noun and in the story *peeled* is a verb. The teacher helped the student find the correct definition which was “to strip off an outer layer of skin.” The students copied the definition onto their worksheet.

Finally, she had the students share sentences using the word *peeled*. One student responded with the sentence, “My dad *peeled* the orange.” Following the demonstration the students were expected to complete the assignment independently. The students required assistance in the use of guide words and the selection of the appropriate definition based on the context of the story.

During a similar observation in a first-grade classroom, students were divided into groups of four to practice dictionary skills. The words identified for instruction included grab, buzz, snap, and deny. The groups of students were instructed to put the words in alphabetical order, copy the definitions from the dictionary, and identify the part of speech for each word. During the group activity, the teacher checked on the progress of each group. The students required teacher intervention to find the words in the dictionary and struggled with the multiple definitions provided by the dictionary.

Two other observed vocabulary lessons required similar expectations of students to independently alphabetize a list of words, copy their definitions from a dictionary or glossary,

and to use each word in a sentence. During both lessons, teacher intervention was needed to navigate the guide words in order to copy the definition.

Graphic organizers. Four of the vocabulary lessons observed included the use graphic organizers. Examples of the graphic organizers used included word maps, word webs, and Venn diagrams. In one observed word map lesson, the students first wrote the vocabulary word *predator* in a large box across the top of the worksheet. Second, they copied the definition for *predator* in the box below the word. The definition given was “an animal or person that hunts another animal.” Under the box for the definition, there were three smaller boxes. The students were instructed to draw three examples of predators in the three smaller boxes. The teacher asked guiding questions to help with the examples. She asked the students, “What do tigers eat everyday for food?” and “What do frogs eat?” After checking several of their drawings, she made the comment, “I am seeing some pictures that are not quite right. Does a dog eat a cat?” The students giggled and told her, “Dogs chase cats; not eat cats.”

Another example of the use of a graphic organizer was a Venn diagram activity observed during a first-grade science lesson. The teacher used three hula hoops to initiate an open sort, meaning no guidelines were provided for the sort, of characteristics of animals that were endothermic, exothermic, and warm-blooded. Students were given either a vocabulary word on a sentence strip or a picture that represented a vocabulary word. They were to sort them into the hoops based on similarity. Students were called up individually to place their cards in the hoops. Examples of vocabulary words assigned to students included exothermic, endothermic, spine, backbone, and molt. Through group discussion and negotiation, the students were able to sort

the words. Following the lesson the teacher reviewed with them the similarities and differences between the three categories by overlapping the hula hoops to make a three-circle Venn diagram.

Creative writing. Two observations included lessons focused on the use of vocabulary words during creative writing. During one lesson, students engaged in the creation of a “character close up” in which they pretended to be a character from a fairy tale. The class had just finished reading and comparing the books, *The Three Little Pigs* (Seibert, 2001) and *The Three Little Wolves and the Big Bad Pig* (Trivizas, 1997). They completed a Venn diagram of the two stories to determine similarities and differences. The teacher challenged them to determine, “Who made the better villain, the Big Bad Pig or the Big Bad Wolf?” They were told to choose one of the two villains and describe what the character “sees, does, feels, and thinks” in their journal. The only vocabulary word reviewed during the story was the word *villain*. The students were to generate the descriptive words used to describe their character independently.

A second-grade creative writing lesson was designed around the book, *Sylvester and the Magic Pebble* (Steig, 1969). After the teacher read the story aloud, she reviewed the vocabulary words associated with the book which included unusual, remarkable, gradually, inquiring, gully, and dreadful. The teacher gave each student a stone to examine. She then said, “We are going to talk about the vocabulary words that best describe your stone.” She then asked them questions to initiate discussion. She asked, “How is the stone *unusual*?” and “What is *remarkable* about the stone?” The students brainstormed words they could use to describe the stone while the teacher listed the words on the overhead. The student responded with descriptive words that described the color and texture of the stone including brown, smooth, rough, gray, and round.

Additionally, they provided words like magical, remarkable, unusual, and original. The students were then asked to write a paragraph describing their stone and what made it special.

Wear a Word Wednesday. As a component of the school-wide vocabulary initiative that began the previous year, the school engaged in a practice called “Wear a Word Wednesday.” Each Wednesday students were to choose a vocabulary word from their class list to wear on a slip of paper. Faculty and students were expected to question students about the words they were wearing. Students were then to explain the meaning of the word to the person who questioned them. The practice was observed twice during the observations. The two teachers who participated in the practice were both first-grade teachers.

The first teacher observed using the strategy reviewed the words identified for vocabulary instruction. The words were snug, discover, claw, hermit crab, and seaweed. The students were given the opportunity to select their word from the list, but before they could put it on they had to tell the class what it meant and use it in a sentence. The students did not have trouble sharing the meaning of the words but did struggle with using the words in a sentence.

The second teacher observed using the strategy, had the students chose their word from the list of spelling words for the week. The spelling words were sight words and included words that all contained a short *a* sound. They were not required to share the meaning of the word but were asked to use it in a sentence before they could wear it. Questioning of the vocabulary beyond the choosing of words was not observed in either lesson.

Vocabulary selection. Across the eight teachers, 68 words were identified as vocabulary words during the 19 observed lessons. Analysis of vocabulary words indicated that 31% of the words identified for instruction were sight words. Sight word vocabulary has several definitions

but traditionally represents the words a student recognizes instantly or “on sight” (McCormick, 2007, p. 127). Examples of sight word vocabulary included from, let, had, throw, catch, and bat. Descriptive vocabulary comprised 15% of the words identified for instruction. Examples of descriptive words identified for instruction included plump, snug, fierce, bargain, marvelous, and exchanged. The majority (54%) of words identified for instruction included content area words. Examples of content words were mammal, ecosystem, extinct, migration, arctic, and asteroid. Of the vocabulary words selected for instruction, 56% were nouns, 19% were verbs, 22% were adjectives, and .03% were prepositions.

Vocabulary in the environment. While observing instructional practice, field notes were recorded on classroom environments related to the posting of vocabulary. The majority of the teachers had a designated area in the front of the room for posting the vocabulary words for a each week. Examples of vocabulary words posted in first-grade included pond, tadpole, shallow, soil, grab, and snapped. Examples of vocabulary words posted in second-grade rooms included living, habitat, river, hibernation, stream, and arctic.

All four first-grade and one second-grade classroom had a word wall as a part of the classroom environment. The words on all of the word walls were common sight words organized alphabetically. The words walls were not referenced during the course of any observed instruction. In the one second-grade classroom, the word wall was partially covered by a tall book shelf blocking the view of a third of the words posted.

Summary

Analysis of baseline data indicated that teachers were providing direct instruction of identified vocabulary words. Common instructional characteristics among participants included:

- Vocabulary instruction followed a pattern including introduction of new vocabulary words through group discussions.
- Both grade levels observed used trade books and thematic units for instruction across language arts and content areas.
- Vocabulary assignments included sentence writing, copying definitions, and assessment.
- Vocabulary words identified for instruction were comprised primarily of sight words and content area words.
- Vocabulary words were introduced and assessed on a weekly basis.
- Five of eight teachers had word walls of sight words posted in their classrooms.
- Vocabulary instructional practices included the use of read alouds, graphic organizers, and creative writing.

Researcher analysis of baseline data also indicated that though the teachers followed similar instructional patterns, no prescribed method of vocabulary instruction was evident across participants. The teachers had little or no exposure to research or methodologies related to vocabulary instruction for primary learners. Evidence of the school-wide vocabulary initiative which began during the previous school year was evident in the practices of two of the eight teachers. All of the teachers acknowledged the importance of the building of vocabulary knowledge to support the comprehension of text.

The analysis of the baseline data lead the researcher to the creation of areas of focus for the professional development and intervention: (a) the presentation of theoretical knowledge of effective vocabulary instruction, (b) instructional practices for primary learners, (c) instruction

on selection of vocabulary, and (d) strategies to enhance vocabulary retention. These areas served as a guide to the development of the professional development sessions and subsequent intervention.

Phase Three (Part I): Professional Development

Following the collection of baseline data there were some changes in faculty; thus only four of the original eight teachers participated in the intervention. Two of the teachers who participated in the collection of baseline data were transferred to a different school building within the same school district. One second-grade teacher was moved to first-grade and one first-grade teacher moved out of state. It was decided by the researcher and the building administrator that the four first- grade teachers, who all participated in baseline data collection, would take part in the professional development and intervention portion of the study.

Professional development. The professional development instruction took place in two sessions. Each was a two-hour staff development designed to provide research-based strategies to enhance teacher practice related to vocabulary instruction. The professional development portion of the study was open to all members of the faculty at the research site and separated by a two-week time period. All four of the first-grade study participants participated in both sessions. The participants received credit toward required hours of professional development for their attendance.

The professional development sessions were designed to include the effective practices and features identified in the literature (Garet, Porter, Desimone, Birman, & Yoon, 2001; Porter, Garet, Desimone, Yoon, & Birman, 2000; Wayne et al., 2008).. The table below identifies each

of the effective characteristics from the review of literature and how they were addressed within the current study.

Table 3: Professional Development Design

Effective Professional Development Practices	Design of Professional Development
A focus on specific content knowledge.	Theoretical knowledge of the development of vocabulary knowledge and selection of vocabulary words for instruction was presented during the professional development sessions.
Engagement in active learning.	Vocabulary instructional strategies were presented, modeled, and practiced by participants.
Inclusion of collaborative participation.	Participants worked both individually and in small groups during the practicing of strategies. Participants were encouraged to openly discuss of the strategies during practice.
Establishment of goals that are coherent with teachers' goals.	The goals for the professional development were established during discussions with participants during baseline data collection.
A duration that allows for in-depth study of content.	The intervention portion of the study allowed for a in-depth opportunity for the teachers to use and discuss the strategies presented during the professional development.

First professional development session. Twelve members of the faculty of South Elementary School chose to participate in the first session of professional development. The participants included the four first-grade teachers (intervention participants), two second-grade teachers, one third-grade teacher, one fourth-grade teacher, two fifth-grade teachers, a reading specialist, and a special education teacher. The researcher used a power-point to guide the participants through the session (see Appendix C). The researcher shared a review of current research into vocabulary acquisition which included levels of word knowledge (Laframboise,

2000). Laframboise's research asserts that students tend to fall in one of three following categories when faced with a new word:

1. "I haven't a clue." (I don't remember ever seeing or hearing that word before, or if I did,
2. I didn't know what you were talking about). "That Word seems familiar." (I don't use that word in writing or speaking, but if you use it, I recognize it and usually understand what you mean).
3. "I own that word." (I can use that word in writing and speaking. I understand its shades of meaning and don't confuse it with other similar words).

(Laframboise, 2000, p. 540)

Next, instruction was provided on the tiered system of vocabulary classification (Beck et al., 2002; 2008). The goal of this portion of the professional development was to establish a distinction between Tier One (familiar/common words), Tier Two (descriptive vocabulary), and Tier Three (content area) words.

Tier One words were defined as the most basic words. These words are often found in everyday language, are easily understood by most students, and rarely require intensive instruction (Beck et al., 2002, 2008). Examples of Tier One words shared were sad, baby, trip, and stop. It was explained that students often encounter these words on their own through "informal oral context or in written materials" and add them to their vocabularies through experience with texts and conversation (Beck et al., 2008, p. 29). The presenter shared that not all students learn Tier One words through experiences with text, and some students need direct

instruction related to specific Tier One words. It is necessary to evaluate understanding of these words on an individual basis.

Tier Two words were defined as, “likely to appear frequently in a wide variety of texts and in the written and oral language of mature language users” (Beck et al., 2002, p. 16). Examples of Tier Two words included daring, solo, dusk, routine, fabric, and victims. It was explained that Tier Two words appear frequently in texts, and students often need direct instruction in order to assimilate these terms into their working vocabulary knowledge (Beck et al., 2002).

Three criteria for selecting Tier Two words were presented to the participants. The first criterion was to evaluate words for their “importance or utility.” The participants were told to ask themselves the following question, “would their students would be able to express the word using words they already know?” (e.g. an infant is a baby or a merchant is a salesperson). The second criterion is whether or not the words have “instructional potential.” Tier Two words can traditionally be defined in multiple ways and are described as sophisticated representations of words students often already know (e.g. haunting means scary, fortune is luck, mention means to tell) and ripe for instruction. The third criterion was “conceptual understanding.” Most students should have a general understanding of the Tier Two words but need direct instruction to develop a more precise understanding (Beck et al., 2002).

Tier Three words were defined as words that appear most often in expository text and are specific to certain content areas. Examples of Tier Three words shared included culture, nationalism, revolution, tundra, and mitosis (Beck et al., 2002; 2008). Tier Three words are not utilized often by learners except in specific contexts. They are best learned when needed for a lesson on a specific content area.

Information shared included that although the Tiers provide a method of word classification, there are situations in which words can appear in two tiers, depending upon the context. Because the tiers provide a guideline and not an absolute rule for classification, some discretion for selection is left to the teacher. Additionally, the researcher shared with the participants that this system is aimed primarily at identification of descriptive language in the context of children's literature and does not apply to all content area vocabulary.

In this professional development session, an opportunity was provided for discussion of the Tier System, and participants engaged in an activity in which the teacher worked in pairs or groups to select and categorize words into each tier. The participants were asked to divide themselves into groups of two or three and to select a narrative fiction trade book from a group texts provided by the presenter. The books chosen as texts for the professional development provided a wealth of words from each of the three tiers. Additionally, the texts were leveled to allow participants to select a book appropriate to their grade level. Each group was asked to find five words from each tier from within the text.

Each group was asked to record their leveled words on large pieces of easel paper and post them on the walls. Groups then shared the words selected and the tiers within which they placed the individual words. As the individual groups shared their words, group discussion was initiated when questions arose regarding identified tiers. Several words were debated and moved to another tier as a result of group consensus. The results of the classification are shared below.

- Tier One Words: apple, love, door, pet, name, birds, tall, tree, picture, jug, ghost, down, my, to, bed, and, top

- Tier Two Words: grand, mourners, ancient, loomed, scrolled, gasp, quite, frightened, poor, young, hollow, distant, frolicking
- Tier Three Words: orchard, wilderness, sarcophagus, hieroglyphics, swamp, toad, avalanche, piano, mirage, mummies

After the words were categorized, assessment strategies were presented to evaluate student understanding of words identified for instruction. The two strategies presented for assessment were the “Stop Sign Cue Card” and “Stoplight Vocabulary.” It was explained that the two strategies work together to help students self assess vocabulary knowledge and reach a deeper understanding of word knowledge.

Stop sign cue card. The development of a “stop sign cue card” was shared as a way to provide students with a list of questions to ask themselves when they come across an unknown word in their reading. The questions help the students in identifying unknown words. The questions are to be displayed on a stop sign shape. The participants were told that the list can be copied onto individual index cards or personal stop signs to be kept in the student desk’s and posted within the classroom for quick reference. They are

Step 1: Have I ever seen this word before?

Step 2: Are there picture or word cues to help me understand the word?

Step 3: Do I know another word that is similar that would make sense?

This strategy was presented using a passage from a text. As the researcher read the passage, words that were Tier Two or Tier Three words were discussed. The researcher would “stop” and model by asking questions in a similar manner of the participants in which they would ask their students.

Stoplight vocabulary activity. The following list describes the steps to the stoplight assessment strategy.

1. After reading a text and identifying words for instruction, the teacher then lists Tier Two or Tier Three vocabulary on a stoplight transparency placed on an overhead projector or lists them on the board next to drawing of a stoplight.
2. Each child is given a copy of the “stoplight vocabulary” worksheet and asked to write each vocabulary word next to one stoplight on the worksheet.
3. Once the words are listed on the worksheet, the teacher instructs the children to color the stoplight according to their knowledge of the identified word. Red is for words that they do not know at all (“I don’t have a clue” words); yellow is for words they are familiar with (“The word seems familiar” words); and finally green is for words they know well (“I own that word”).
4. While the students complete the worksheet, the teacher walks around the room making note of words which have been identified as red, yellow, and green by individual children and by the group as a whole. If a child marks a word as green, the teacher should ask the child to share his or her understanding of the word by using it in a sentence for assessment purposes.

Each step of the “stoplight vocabulary” strategy was modeled for the participants using the vocabulary words identified during the classification activity. The participants were provided with a copy of the “stoplight vocabulary” worksheet and asked to choose nine of the Tier Two words identified in the classification activity and evaluate them based upon what they believed their students understanding of the words would be. The reason for the focus on Tier

Two words for this activity was that Tier Two words are the words that are in most need of instruction for primary learners and are often neglected during content area vocabulary lessons. Participants used crayons to color the stoplights to represent whether the word was a red, yellow, or green light for the majority of students in their classroom. The importance of modeling this and other strategies for their students prior to independent use was emphasized to professional development participants.

The first professional development session concluded with an opportunity for participants to ask questions. The participants asked several questions regarding the tiered system of vocabulary instruction and shared their appreciation of the strategies. There was a preview of the strategies that would be covered in the second professional development session.

Second professional development session. The same twelve participants attended the second professional development session. A powerpoint presentation (see Appendix D) was used each session to introduce specific strategies to enhance vocabulary instruction. The strategies chosen for the intervention came primarily from *Creating Robust Vocabulary: Frequently Asked Questions and Extended Vocabulary* (Beck, et al., 2008) but also consulted were *Bringing Words to Life* (Beck et al., 2002), *For the Love of Words: Vocabulary Instruction That Works* (Paynter, Bodrova, & Doty, 2005), and *Getting Into Words: Vocabulary Instruction that Strengthens Comprehension* (Lubliner, 2005).

This professional development session began with a brief review of the tiered system of vocabulary classification (Beck, et al., 2002) and levels of word knowledge (Laframboise, 2000). “Stoplight Vocabulary” worksheet and “Stop Sign Cue Card” were also reviewed. Following review, several new strategies were presented to the participants. Whenever possible, participants were engaged in enactment of the strategies.

Creating kid-friendly definitions. The participants were told that the most common form of vocabulary instruction surrounding the use of a dictionary is to instruct students to copy definitions followed by the writing of a sentence using the identified vocabulary word (Beech, 2004). (This was true of the teachers surveyed during baseline data collection as well.) The participants were told that there are two primary reasons that writing a sentence based upon a dictionary definition is difficult: (a) definitions provide little insight into the actual usage of the words (b) definitions do not convey the concept in such a way as to form a sentence that represents the meaning of the word (Nagy, 1988). During discussion of this instructional practice, the teachers had opportunities to share their related experience.

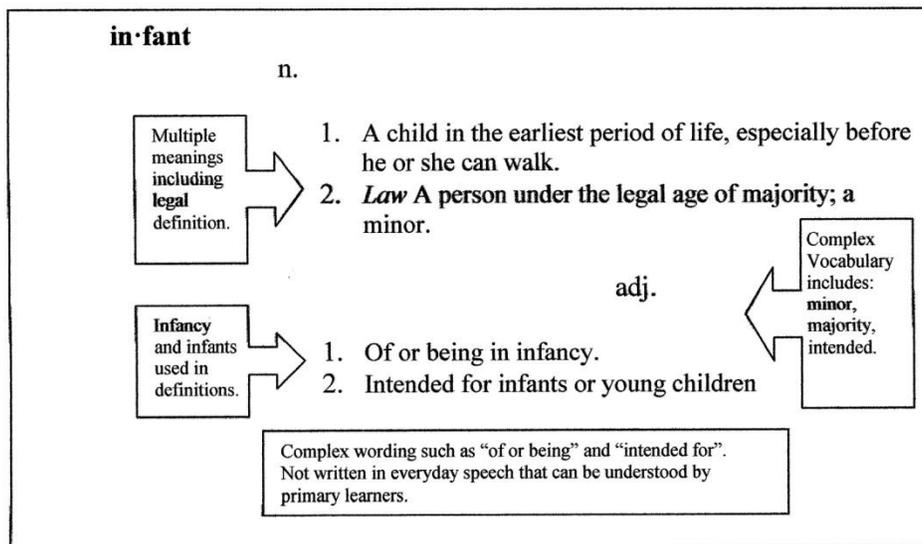
In order to understand the problems that surround the use of dictionaries with primary learners, it was necessary to share with the professional development participants the structure of a traditional dictionary and the needed skills to utilize it as a resource. It was explained that traditional dictionaries have five common characteristics:

1. Definitions are formatted in a concise manner to conserve space which results in the use of abbreviations that are confusing to young learners.
2. Complex alphabetization skills are needed to utilize guide words such that students often must go to the third or fourth letter of a word to even determine the correct page on which to find the word.
3. Definitional phrasing is often complex and not based upon familiar conversational language used in classroom discussions.
4. Most words have several variations of definitions, forcing children to navigate through the different options in an attempt to determine which definition best suits the context of the text.

- Few dictionaries have changed since the early 1600's, and they include much language that is not easily understood by primary learners.

Figure 2 outlines the “Anatomy of a Definition” that was shared with the participants to provide a concrete example of the difficulty experienced by students when navigating a traditional dictionary definition.

Figure 2: Anatomy of a Definition



As an alternative to the traditional dictionary, the *Collins COBUILD Dictionary* (2008) was presented and used in the teaching of the “kid-friendly” definition strategy. The *COBUILD Dictionary* (2008) uses a controlled vocabulary and full sentences to define words. The benefit of definitions with full sentences is that it provides a context and connected language that is easier for students to understand (Beck et al. 2008). This strategy was adapted from “student-friendly explanations” (Beck et al., 2002; 2008). The strategy were presented and modeled for the participants, and broken down into the following five steps:

Step 1: Characterize the word within the context of the story.

Step 2: Ask the students what they thought the word meant based upon its usage within the story

Step 3: Create a simple explanation for the word using everyday language.

Step 4: Use the word in a sentence.

“Everyday language” was described as being based upon words that are experienced regularly through the context of conversation (McKeown, 1993). It was explained that the vocabulary used in standard dictionary definitions is decontextualized, which makes it more difficult to understand. It was emphasized that the majority of learners’ experience with vocabulary comes from contextualized oral language because they do not yet possess the reading skills to experience the more advanced vocabulary found in written text (Nagy & Scott, 2004).

Participants were reminded that in order for students to really “know” a word, multiple exposures in a variety of contexts are necessary before it is possible for learners to add that word to their lexicon of word knowledge (Nagy & Scott, 2004). It was explained that by extending vocabulary lessons beyond the formation of kid-friendly definitions, teachers will increase the likelihood that students will really “know” the vocabulary they are teaching in such a way to recognize its use in print materials, use it in conversation, and include in their writing. In order to accomplish this task, the teachers were encouraged to incorporate the newly acquired vocabulary into daily classroom practices and extend the learning beyond the classroom and into the children’s’ homes.

Re-build the word wall. A word wall is a visual display in the classroom that provides a reference for the collection of words identified for a specific instructional purpose (Brabham & Villaume, 2001). Word walls benefit students through continued interaction with new words and easy access for reference in writing assignments. They provide both teachers and students a

visual record of the skills taught and the topics covered (Brabham & Villaume, 2001).

Researchers support the use of words walls when they are being used as an instructional tool (Brabham, & Villaume, 2001). Word walls must be interactive, and teachers need to plan activities around their use if they are going to justify a place in instructional practice. This section of the professional development provided activities that allowed for revitalization and utilization of the word walls already present in most of their classrooms.

Word walls in primary classrooms often only represent sight word vocabulary (Tier One) for quick reference. Once students have mastered simple sight word vocabulary, teachers should re-build the word wall as a means of building vocabulary knowledge. It was discussed that after words have been defined through the use of “kid-friendly” definitions, the teachers should post them on the word wall. This would provide a point of reference within the classroom for new vocabulary words and provide a visual representation of children’s developing vocabularies. Activities shared to extend the word wall and incorporate it within instructional practice included

- Allowing students to create reference books containing collections of their own kid-friendly explanations. This reference could include the class-created definition, a sentence of the word used in context, and a personal visual representation of the word. These personal books would be a tangible reference for new words learned during the school year.
- Play “I Spy” with the word wall. Begin with the phrase “I am thinking of a word that means ...” have student line up as they guess your word.
- Write the words from the word wall on vegetable shapes and make word soup. Place the words in a large cauldron or bowl and have students to come up and get a ladle full to use in creative writing or in individual sentences.

- Give a word from the word wall to each student on a piece of paper. Have the students sort themselves according to pre-determined categories such as parts of speech, word families, synonyms, or antonyms.
- Evaluate three or four words each week using the spotlight assessment strategy. Remove any words the students are all able to categorize as “green” through assessment and store them in an envelope or box that the students can access if they need them.

Wear a word Wednesday extensions activities. Participants were encouraged to enhance the school-wide practice of “Wear a Word Wednesday” through the use of the following extension activities:

- Allow students to pick their words from sources other than the weekly vocabulary or spelling lessons. Encourage them to bring interesting words from home to share with their classmates.
- Have students place their words on their backs. Students then get into pairs and guess each other’s words using clues. Once they have guessed each other’s words they pair up with someone else until each person has had their word guessed three times by three different people.
- Get together with another class and form partners. The partners must then introduce their new friend, define their new friend’s word, and use the word in a sentence.
- Call students to line up by calling out the student’s word and having them use it in a sentence before they can line up.
- Allow students to group themselves into word groups according to student-created or teacher-created categories. Allow the groups to explain how the words in their group relate.

- Have students put themselves in order alphabetically using their words instead of their names.

Word wizardry. This strategy was shared with participants as a way to encourage students to listen for the use of vocabulary words in other contexts. Students should be asked to look and listen for identified vocabulary outside of the story context and to come back and share their discovery with the class. This allows for words to be discussed in multiple contexts and for informal evaluation of word understanding. Participants were told to have students use a wizard's hat or use a wand when they return to class to share their discoveries (Beck et al., 2002).

“Zooming in” and “zooming out” strategy. The purpose of this strategy was to help students activate prior knowledge related to a chosen concept, to act as a guide to help students with their interactions with a text passage, and to help students make connections through the use of higher level thinking skills (Harmon & Hedrick, 2000). The following steps to the strategy were shared with participants. Participants were also guided through a “zooming in” and “zooming out” (Harmon & Hedrick, 2000) lesson on Abraham Lincoln as the steps were discussed. The first step to this strategy was to brainstorm as a class (zooming out) and share knowledge of a specific topic. All responses were to be recorded by the teacher on the chalkboard, chart paper, or overhead. The professional development participant responses included president, slavery, log cabin, tall, assassination, and freedom for slaves. The second step was to read a selection of text that illustrates the specific topic identified for instruction (zooming in). As the students read, either individually or in small groups, they record new or important information on a fact sheet. A section from the book *A Picture Book of Abraham*

Lincoln (Adler, Wallner, & Wallner, 1990) was read to the participants. The third step in the strategy requires the class to return to the brainstorm and categorized the information as “most important” or “least important” (zooming in). The participants returned to their brainstorm and categorized sixteenth president, assassination, and freedom for slaves as most important and log cabin and tall as least important. The fourth step involves the creation of a “similar to” category which linked prior knowledge or related subject areas to the new topic (zooming out). The participants in the professional development linked the discussion about Abraham Lincoln to the Civil War, George Washington, and Emancipation Proclamation. The information was then recorded on a graphic organizer which could be completed by students and placed within content area notes. The use of a graphic organizer was discussed with the professional development participants but not modeled.

The benefit of this type of activity was that it teaches students to evaluate information for importance rather than trying to learn all information equally (Harmon & Hedrick, 2000). The professional development participants engaged in the activity fully but expressed confusion regarding the “zooming in” and “zooming out” terminology. Discussion among the workshop participants and the researcher clarified the confusion over the terminology. The primary teachers expressed concern over using such a complicated strategy with their students.

Sample weekly instructional plan. A weekly instructional plan was presented to the participants as a possible sequence of instruction to take place for the instruction of vocabulary. The plan was organized into a table that provided instructional ideas for each day of the week. The instructional strategies included on the sample weekly instructional plan came from the strategies presented during the two professional development sessions. The participants of the workshop expressed appreciation for the organization and suggestions within the plan. The

teachers participating in the intervention portion of the study were asked to follow the instructional plan throughout the collection of data (see Appendix E).

Professional development feedback. At the conclusion of the second session of professional development the participants were asked to complete a P.M.I. (plusses, minuses, and interesting) (see Appendix F) to share their opinions of the professional development. The participants were asked to write in the “Plus” column any positive points of the professional development. Underneath the “Minus” column they were asked to write any the negative opinions about the professional development. In the “Interesting” column, they were asked write down the points found to be most interesting and usable.

P.M.I. results indicated that participants had “positive” feedback for the hands-on design of the professional development and the practicality of the strategies presented. The participants valued and felt that they benefited from instruction on the tiered system of vocabulary identification. They expressed appreciation for learning methods for the categorization of words, as they felt that this would help them narrow down the words they included for instruction. The “stoplight assessment” strategy also received positive comments as an excellent assessment of background knowledge and a guide for the teaching of new vocabulary. They shared that they will use the extension strategies presented to enhance the initiative started the previous year.

“Interesting” comments included the information shared on Tier Two words. They had not realized that Tier Two words are often those that children from lower socioeconomic status must learn in order to increase comprehension of text. Participants were also interested in the *COBUILD Dictionary* (2008) as an instructional tool for creating friendlier definitions.

“Minus” comments included a lack of strategies for upper grades. The researcher attempted to modify strategies during the course of the professional development to address

instruction for upper grades, but the participants would have appreciated more strategies designed specifically for upper grades. The professional development sessions were designed to focus on primary instruction because this level was the focus of the research. Additional areas included strategies for incorporating vocabulary in writing lessons and modifications for second language learners.

Chapter 5: Data Collection and Analysis

Phase Three (Part II): Intervention

The eight-week intervention included weekly observations and bi-weekly group meetings (every other week). The four first-grade teachers agreed to complete a weekly summary sheet (see Appendix G) that included words identified for instruction, instructional strategies used, and assessments administered. The bi-weekly meetings were planned as opportunities to share input on the intervention design and the modification of strategies. Input is a key component of formative experiments and allows for “fine-tuning instructional interventions” (Duke & Mallette, 2004).

Intervention data collection. Multiple types of data were collected during the intervention portion of the study.

- Interview Data: Pre-intervention and post-intervention interviews audio-taped and transcribed verbatim by the researcher.
- Observation Data: Field notes collected by the researcher.
- Bi-Weekly Group Meeting Data: Meetings were audio-taped and transcribed by the researcher. Included within the data were notes taken during the meeting by the researcher and student work samples photocopied as artifacts.
- Weekly Summary Sheets: Reports of selected vocabulary, strategies used, and assessment administered.

Interview data. The data collected included pre-intervention and post-intervention interviews with each participant. Due to the changes in participants from baseline data collection to intervention data collection, pre-intervention interviews were scheduled with the four intervention participants (see Appendix H). The pre-intervention interview questions aligned with the questions used during baseline data collection. Post-intervention interviews were conducted following the conclusion of the intervention (see Appendix I).

The researcher met with each participant for approximately thirty minutes for pre-intervention and post-intervention interviews. The interviews were conducted in the individual participants' classrooms or in the school library. The questions for both the pre-intervention and post-intervention interviews were predetermined but flexible to accommodate prompts, additional questions, or clarification. A total of eight interviews (two for each teacher/one pre- and one post-intervention) were audio-taped and transcribed verbatim by the researcher.

Observation data. Observations were scheduled weekly by the participants via email confirmation with the researcher. Each teacher, except Catherine, was observed at least once weekly for one hour. Catherine had a student teacher and requested not to be observed until the student teacher had completed her independent teaching requirements. A total of 20 observations (of the 4 teachers) were conducted over the duration of the eight-week intervention. Field notes were recorded by the researcher and included a summary of the lesson, vocabulary identified for instruction, strategies utilized, adaptations to strategies, and interactions between the teacher and students. Field notes were then transcribed and organized into sets of observations for each teacher.

Weekly summary sheets. The teachers were asked to complete a weekly summary sheet for each of the eight weeks of the intervention (see Appendix G). The participants recorded vocabulary words identified for instruction, vocabulary instructional strategies utilized, and vocabulary word assessments administered. The purpose of the weekly summary sheet was for analysis of vocabulary selected for instruction and evaluation of strategy usage.

Bi-weekly group meetings data. Group meetings provided opportunities for discussion of the intervention from a pragmatic or democratic standpoint and allowed for opportunities to provide input on the continuation of what worked and elimination of what did not (Duke & Mallette, 2004). The participants were asked to bring student work samples of varying ability levels for discussion during the meetings. The meetings were held after school in Sara's classroom and lasted an average of one hour. We chose Sara's classroom for meetings because it was centrally located within the first-grade classrooms. The teachers were encouraged to share personal challenges, accomplishments, and needs with the group. The discussion was not scripted but was designed to be a sharing of researcher observations, modifications of strategies, and overall implementation of the intervention. The meetings were audio-taped and transcribed verbatim by the researcher. Additionally, field notes were recorded by the researcher and included with the transcriptions of each meeting.

Student work samples collected during the bi-weekly group meetings and observations were collected as artifacts. The samples were used during group meetings to initiate discussion of strategy modifications and for "brainstorming" solutions to difficulties the teachers had during the intervention.

Intervention data analysis. The goal of data analysis in a formative design experiment is to examine how successful the intervention was at reaching the pedagogical goal, factors which enhanced or hindered reaching the goal, and changes made over the course of the study to enhance the intervention (Reinking & Bradley, 2008). The pedagogical goals that were at the foundation of the intervention design were: (1) to provide the teachers with sound theoretical knowledge in how vocabulary is developed and strategies to help their students gain vocabulary knowledge and (2) to evaluate the use of the professional development and intervention to enhance vocabulary instructional practices.

Each interview, transcript of observation field notes, and bi-weekly group meeting transcript was analyzed individually and as a component of the complete data set. Each piece of data was coded independently and compared to other “like” data pieces (i.e. all pre-intervention interviews) to evaluate for the emergence of themes or patterns among participants. After themes and patterns were identified among the individual data sets, the data set (including interviews, observations, bi-weekly group meetings, and teacher response sheets) was analyzed as a whole to determine the degree to which the intervention met the pedagogical goals set for the study. This method of analysis allowed the researcher to evaluate the impact on individual teachers and on the first-grade teachers as a group.

Pre-intervention interview. Pre-intervention interviews and were audio-taped, transcribed, and analyzed. The participants were interviewed individually in their classroom or in the school library to provide a “snapshot” of each participant. The interview questions (see Appendix H) aligned closely with the survey administered during the collection of baseline data. Table 1 summarizes education and years of experience for the intervention participants.

Following the table is a brief summary of each individual participant based on pre-intervention interview data.

Table 1: Intervention Participants

Pseudonym	Education	Years of Experience
Catherine	MA	14 Years
Emily	BA	6 Years
Rachel	MA	5 Years
Sara	BA	4 Years

Catherine. Catherine was the most veteran teacher in the group and had been teaching for 14 years at the time of baseline data collection. She was very engaged in the study during the collection of baseline data and had even offered her assistance as a primary contact for me when scheduling observations and collecting surveys. She was very open in sharing her background and knowledge of vocabulary instruction and appeared anxious to build her instructional knowledge. At the time of baseline data collection, she was assigned to the second-grade. Catherine was moved to first-grade for the following year when the intervention took place.

Catherine's classroom is a reflection of her love for literature. She has children's literature displayed on book cases, across the ledge of her chalkboard, and in leveled book boxes. Additionally, each child has within reach a personal selection of books in a box labeled with their name. A chart stand at the front of the room holds laminated poems used during morning group time. The stand is located on a large oval rug the students sit on during morning group time. Also on the rug is a rocking chair that Catherine sits in to read stories and the children sit in to share their writing.

The student desks are organized into groups of five or six that Catherine calls tables. Each set of desks, or table, is numbered for use when calling students to line up and for earning

group reward points as part of a positive behavior management plan. Catherine will reference, during group activities or when students are given a direction to follow, which table is doing the best job of following directions, working most quietly, or cooperating to complete an assignment. The tables earn points when Catherine recognizes them. The tables earn privileges based upon the points earned by their table.

Due to the open concept design of the classrooms, Catherine only has two permanent walls to use for display. One of the walls has a white board on which she organized an alphabetical word wall. Prior to professional development and intervention, the word wall consisted of primarily sight word vocabulary. The second wall had an Active Board that Catherine utilized for instruction. The room had several bulletin boards that Catherine used for displaying student art work or projects, maintaining the class calendar and announcements, and for a center on writing poetry. Though Catherine only had two walls in her classroom, she utilized the available space to make her classroom a warm and inviting environment for her students.

Catherine's pre-intervention interview responses indicated that she was concerned about the current level of vocabulary knowledge for many of her students. As the interview progressed, she shared her feelings, "We have many different socio-economic levels and amounts of parental involvement which leads to a big discrepancy in background knowledge. Much of their vocabulary knowledge is not where I would want it to be. We (the teachers) do a good job here (South Elementary) of just trying to immerse the children in as much as we possibly can, but there's still a gap. I think we're really trying to work hard on improving that gap but it's hard. In fact the other day we were talking about the word bologna. Just talking about

how it's pronounced. And they were like, 'what is bologna?' It is interesting hearing them talk about what they know and the things they know nothing about. It might be a generational gap, I don't know. It's interesting. I know with my own son, things that I just expect everyone his age to know but he doesn't. We're working hard and trying to pull out the vocabulary constantly, especially with the SOL...hit the terms they need to know and be able to recognize. Any guidance we can get is definitely welcome."

When asked about a typical week of vocabulary instruction, Catherine stated, "Usually I'll start with a book, a book of the day. I'll pull words that might be from a content area, such as science or I might do a language arts activity that helps them to focus on a word. Like we were doing famous Americans and so I asked them, 'What does famous mean to you?' Things like that. We'll focus on the word and then we'll either do different examples of the word, play Pictionary, or writing 'this word means _____ to me because _____.' We do it on Monday and then I'll have them do it again on Friday. After we've had a week talking about the word, I can see the before and after in their understanding. We do not necessarily match words with definitions because I'm sure they are going to get that when they get in the third and fourth grade. I try to keep it very much on their level so they can apply the word."

Before the intervention the words Catherine selected for instruction came mostly from content areas, like science and social studies, but also from the texts selected for her flexible reading groups. Included within her weekly vocabulary lessons were utilization of a word wall, playing the game Pictionary, and examination of vocabulary words in context. Catherine had taken a course on word study, but did not have any additional experience with professional development directed at the teaching of vocabulary. Catherine was excited that the first-grade

teachers would participate in the intervention study because so much of the focus of the school's resources were directed to grade levels three through five (because of state assessment in those grades).

Emily. Emily earned a bachelor's of arts degree in Elementary Education with a concentration in communications and was finishing her master's degree in liberal arts during the study. Her master's thesis was an adaptation of the Phonological Awareness Literacy Screening (P.A.L.S) test to use with her students. She had begun working over the course of the school year to fine tune the assessment and was anxious to use it with her students.

Her classroom was very student friendly and welcoming. Emily enjoyed organizing her instruction around themes and this was evident when visually scanning her classroom. She had student art work displayed around the classroom and hanging from the ceiling, all related to the current pirate theme. In the front of her classroom was a display of pirate books used during read alouds and accessible to students during free reading time.

The student desks were arranged in groups of four and she had chosen a kidney shaped table to use as her desk. Around the perimeter of Emily's classroom were student friendly centers. One center contained math manipulatives the students could play with during free time or for solving problems. A second center contained art paper, scissors, glue, stickers, and various other supplies the students could use to create art projects. A third center was entitled "Publishing Center" and had a folder for each student to use for filing their writing projects. This center also had a student dictionary and lined paper for writing.

During her pre-intervention interview, Emily expressed that she felt that her students did not have the background or experiences to learn new vocabulary. "When I'm working in reading

groups, we come to a lot of words that the kids will do, when they are reading, they will use the strategy of sounding it out. But because they do not have the vocabulary experience with what the word might mean, they substitute another word they know for the unknown word.” Emily said that she tried to expose them to as much new vocabulary as she could.

When asked about the vocabulary knowledge of her students, Emily said, “You can definitely tell which groups are on a higher level. They have more vocabulary, an expanded vocabulary. They recognize words better because they have heard these words before, maybe in talking with adults or talking with peers and things of that such. My lower vocabulary, lower level readers, they are not quite there with the vocabulary. I have two ESL students in my classroom. It’s amazing to see what they don’t know vocabulary wise because of their language barrier. One example is a water fountain, they did not know that it was called a water fountain, but they knew you get water from it. I’ve had to go back and rethink about things. I’ve been bringing in a lot of picture books and I put them around and we’ll look at them. The discrepancy between my students is huge.”

Emily selected the vocabulary for her students from texts used in reading instruction, as well as content areas such as science and social studies, and first-grade S.O.L.s. Her instructional practices included asking her students to use vocabulary words in sentences as an assessment of prior knowledge and examining each word in context. Emily did not have a word wall in her classroom due to lack of wall space. The words identified for instruction were posted on her Active Board (interactive white board) each week. Emily used strategies for the instruction of vocabulary such as Directed Reading Activities (D.R.A.) and Reader’s Theater.

She felt that her vocabulary instruction could be enhanced by use of a word wall, dictionaries that were for primary learners, and activities to review vocabulary.

Rachel. Rachel was more guarded about participating in the study. Her educational background included a Bachelor's Degree in Business Administration and Elementary Education certification earned through the "career switcher" program offered by the University of Virginia. She was finishing her last course to complete a Master's Degree in Education during the course of the intervention.

Rachel's classroom appeared disorganized and cluttered. Piles of books and papers were stacked on her desk and on tables throughout the room. Rachel did not seem bothered by the clutter and neither did her students. The student desks were organized into rows with several student desks set off from the group. On one wall, Rachel had a large white board with vocabulary words organized in alphabetical order and partially covered by chart paper. At the front of the room was an Active Board that Rachel used in her instruction. A bulletin board to the left of the active board had a pocket chart for sentence strips. On the sentence strips were the lines of a poem.

At the back of the room, Rachel had a large rug with a rocking chair. Around the perimeter of the rug were boxes of children's books. She also had a chart stand that held blank sheets of chart paper used during group instruction and a round table she used for reading group instruction. On the wall at the back of her classroom, she had a calendar, weather chart, and several posters. This portion of the room provided a comfortable meeting place for Rachel and her students. It was an area that would be utilized often during observations.

Prior to the intervention, Rachel's vocabulary instruction consisted of oral review. She stated in her pre-intervention interview that she was very big into "rehashing and repeating" new vocabulary words. Rachel stated, "Normally when I'm reading to them, I try to point out the words, but not come out the first day and say, 'these are vocabulary words.' Then the next day, as we are reviewing our story to do some other type of activity, I will say, 'let's put these words up on our word wall. Let's talk about what these words mean.' Normally we talk about what it means and how it is used in the text. Then I'll have, either that day or the next day, they will actually take the book and look up the word and find it in the story to see how it was used. We look up the definition, use it in a sentence, and draw a picture."

Rachel indicated that the vocabulary words she selected for instruction came from science, social studies, math, and reading group texts. She liked organizing her instructional units around seasonal themes and she tried to use the themes across content areas. She described her planning in the following statement, "I am big into trying to, if I'm teaching plants in science, I try to do something with that in language arts. That way, you are kind of double teaming vocabulary from science in your reading – language arts also. It's something we've (the first-grade teachers) talked about and tried to plan. 'This is what we are going to get this month, this is what we're going to do this month, have more of a plan of that.' We need to have a uniform selection of vocabulary across the entire grade level. This is my fifth year and we've got the best group in the whole school! We work well together and our bottom line is we're trying to get these kids reading and any strategies we can get them to use to read, get them to know vocabulary, getting that foundation set." She expressed a need for more ideas and games for teaching her students to build their vocabulary.

Sara. Sara's educational background included a Bachelor's Degree in Sociology and a minor in Elementary Education. She earned her teaching certificate following completion of her bachelor's degree. Beginning with the collection of baseline data, Sara demonstrated commitment to participation in the study. She was very open and honest in her reflections on her teaching and the noted lack of vocabulary knowledge in the majority of her students. She summed up her assessment in the following statement, "I would say when I ask some questions about how well they know a word in a story that we are reading, probably only about 5% have rich background knowledge. There's probably a good, maybe a majority, who know or has an idea of the meaning of the word but cannot really put in a sentence or use it in their writing. Then there's a good 20% that have never heard it before. Many come from backgrounds where they were not exposed to these words in everyday language. I would say the majority of them do not use them in their writing. I would say probably even 95%. The hardest part with vocabulary is encouraging them to use it in their writing. I guess first grade is just a year where you are focusing on just writing a complete sentence on one topic." Sara continued to make writing a focus in her vocabulary instruction across the duration of the study.

During Sara's pre-intervention interview, she indicated that she incorporated graphic organizers and word maps in vocabulary instruction, "As far as other strategies we do a lot with when we do a new story, we'll do a lot of graphic organizers and predicting what a word means. Maybe discussing it with a group, writing what it means in their own words, using it in a sentence, and then drawing a picture of it. We might do a word map activity. I also use flash cards, especially for math, science and social studies. Flash cards are something, that while we're in the beginning of a unit, we use just to review. But that's not up on the wall anywhere for them

to refer back to. I think it's just different with each kid. I'd say probably content area is a little more difficult because we don't use the vocabulary as much. We do a unit on it and then lots of times we won't go over it because we're moving on to the next unit."

Sara liked having students predict word meanings before reading a story and often used flash cards to review sight words. When asked to identify areas in which she felt she could use the most help, she stated that the selection and review of vocabulary was something with which she struggled. Sara was concerned that she was not always choosing the best vocabulary from her read alouds and wanted to find a way to continuously incorporate vocabulary rather than only focusing on it for one week.

Observation data. One data analysis goal was the determination of whether the knowledge of "what it takes to know a word" (Nagy & Scott, 2004) was evident in observations of vocabulary instructional practice. The intention was not to assess student word knowledge, but to evaluate practice for the multiple opportunities to interact with vocabulary words needed to achieve word knowledge (Nagy & Scott, 2004). The five aspects of word knowledge are listed below with the guiding question the researcher asked in reference to the data during analysis.

- Incremental: Did the teacher(s) provide the students with multiple interactions (more than one) with vocabulary words?
- Multidimensional: Did the teacher(s) explain vocabulary words in multiple contexts when needed to increase the depth of knowledge for vocabulary words?
- Polysemous: Did the teacher(s) introduce multiple meanings when useful for complex vocabulary words?

- Interrelatedness: Did the teacher(s) access background knowledge during instruction that would allow students to relate new vocabulary to words they already know?
- Heterogeneous: Did the teacher(s) demonstrate in instruction the varying degrees of instruction needed for different types of words?

(Nagy & Scott, 2004)

The inclusion of the different aspects of word knowledge in observations was determined by analyzing strategy implementation and the nature of the instruction provided. Most observed lessons included multiple aspects of word knowledge addressed during instruction.

Of the observed lessons, many of them contained discussion or the use of strategies that addressed the incremental nature of word knowledge. The strategies that supported the building of incremental knowledge included: word wall activities, word wizardry, and the stoplight assessment strategy. Lessons structured around the word wall provided the greatest opportunities for multiple interactions with new vocabulary words. All four of the teachers referenced the word wall on a regular basis to review vocabulary words. Additionally, students were encouraged to use the vocabulary words in writing, speaking, and review activities.

The participants accessed the interrelatedness of words, background knowledge, during a majority of the observed lessons. The participants were observed assessing prior knowledge on both an individual and whole group level. Individual assessment occurred through questioning student's knowledge and by asking them to share their background knowledge of identified words. An example of a strategy that would demonstrate this knowledge is the "stoplight vocabulary activity" strategy (Lublimer, 2005). When this strategy is utilized during instruction,

it is designed to access students' prior knowledge and understanding of the vocabulary words. Whole group assessment was observed through the use of the stoplight assessment strategy and through group discussion.

The discussion or introduction of multiple meanings for complex vocabulary words, polysemous, was observed occasionally. This aspect of word knowledge would not be used with first-grade learners on a regular basis due to the confusion it may cause for primary learners. The most commonly observed strategy for addressing the multiple meanings of vocabulary words was "kid-friendly" definitions. Many of the words identified for instruction during the intervention had multiple meanings.

Often, the lessons that addressed the polysemantic nature of words, also addressed the multidimensionality of the words. One strategy that the participants used to support the multidimensionality of word knowledge was the game of "word wizardry". This strategy was used to allow students to share the use of vocabulary words in varying contexts.

The participants designed lessons which included a quick explanation for Tier One words, more in-depth instruction of Tier Two words, and specific definitions for Tier Three words. The observation of the varying degrees of instruction needed for different tiers of words supported the heterogeneous nature of vocabulary instruction. The teachers seemed to recognize that not all words needed the same depth or breadth of instruction and responded accordingly.

Achievement of the pedagogical goal: Data analysis that specifically supports the achievement of the pedagogical goal, the use of the professional development to enhance instruction practice, and the changes to the strategies that came about as a result of the study is summarized below. The coding, comparing, and collapsing of themes led to the identification of

three primary areas where impact was evident: selection of vocabulary words, overall word consciousness, and the usage of strategies.

Vocabulary selection. All four participants referenced in their post-intervention interviews the use of the tiered system of vocabulary (Beck, et. al, 2002, 2008) in their vocabulary selection procedures. The teachers shared a basic understanding of the different levels of vocabulary and confidence in their vocabulary selections for instruction. Sara said, “I love looking at a book for a week’s study and choosing the best words. I think it is fun to find Tier Two words that are the most meaningful to them.” Rachel also referenced the tiered system of vocabulary selection in the statement, “It is helpful to think about Tier Two words as far as language arts words and Tier Three words as more the content area words. Those are words they definitely need to know but may not use in everyday language.”

Word consciousness. The teachers indicated an overall increase in word consciousness for both their students and themselves. Emily stated, “When they read now in their books, they will pull out words instead of just skipping over a word they didn’t know and reading on anyway.” It was evident during observations that both the teachers and the students wanted to investigate unknown words more deeply. Once unknown words were identified they would be defined using a dictionary, discussed both in the context of the story and in other contexts, and added to the word wall for future reference. Though this did not happen with every unknown word, there was an observable increase in the degree to which new words were investigated and reviewed.

During the course of read alouds and content area lessons, word conscious instructional practices were often observed. A shift from completely teacher-selected vocabulary to more

student-selected vocabulary was evident. The teachers were observed adding student-identified words to the word wall and to vocabulary lists. Emily stated, “Students became more aware of vocabulary and interested in using it in their conversations and writings. One example was the word “nauseous.” Once we learned that word, I would hear them using it when talking to one another and it would make me laugh. It was just such a funny word to them.”

During one observed lesson, Rachel was comparing the definitions of “lucky” and “unlucky” when the word “desirable” was found in one of the definitions. A student instantly raised her hand and asked what the word “desirable” meant. The teacher initiated a search for the meaning of “desirable” in her *COBUILD Dictionary* (2008). The teacher shared with them, “the word desirable means a strong wish to have something.” Another student asked the teacher if they could add that word to their word wall and the teacher did so enthusiastically. Later, during the interview with the Rachel, she referenced the lesson as an example of consciousness about new words in her students. She mentioned that previously, the students would never ask about words and request to add them to their lessons, but now they were much more engaged in the learning of vocabulary.

Strategy usage and modifications. The strategies presented as a part of the professional development were intended to be incorporated within instructional practices, but also to be adapted by the teachers to suit the needs of their students. Adaptations of the strategies were a significant part of the intervention and allowed for the teachers to invest their knowledge into the process. Modifications to the strategies were usually discussed during group meetings either as the result of initiation from one of the participants. Strategy modifications varied according to individual participants and provided undoubtedly the most interesting data acquired during the

intervention. The modifications suggested and implemented are discussed within the following sections.

Word wall usage. The strategies designed to enhance word wall usage were by far the most utilized strategies. The word wall played a role in most of the lessons observed and as often referenced in group meetings and in one-on-one interviews. Sara stated, “The word wall was something they enjoyed and I enjoyed. It gave them sort of a feeling of mastery. We learned all these big words and they really felt comfortable with them after they had been up there and reviewed for so long.” In addition to being observed most often, the teachers reported using the word wall on their weekly summary sheets frequently. “This group lived for the word wall and got so excited even if I said, ‘here is a math word.’ They would say, ‘let’s put it on the word wall!” said Rachel. The teachers noted word wall use in writing activities, word play games, and review of vocabulary. Emily commented on her strategy reflection, “The kids loved it! They always would want to add to it and referred to the ‘word wall words’ when writing.” The teachers found word walls to be very useful because they were visual resources, well organized, fun, and easily accessible.

Modifications to the word wall. During the first bi-weekly group meeting, all four teachers noted concerns about having a word wall in their classrooms that students could access. Two of the four participants already had word walls in their classrooms displayed on white boards. Their word walls had lists of sight words organized alphabetically and were not utilized for vocabulary instruction. They were eager to transform them into a vocabulary instructional tool.

The two teachers without white boards also wanted to find a way to incorporate a word wall into their classrooms. The school, as mentioned earlier, is an open concept design. The lack of wall space was of concern to all participants. Through brainstorming during the first bi-weekly group meeting, it was decided that two who had not previously used a word wall would post word walls during vocabulary lessons on an Active Board, an interactive white board similar to a Smart Board.

As the first meeting progressed, the teachers were eager to share their ideas of how best to utilize the word wall during vocabulary instruction. They felt that at the first-grade level, individual assessments could be conducted if students had a type of word journal to keep at their desks. This would allow students to have access to the word wall words even when the Active Board was not displaying them.

Catherine opened the discussion by stating, “If we could come up with a word journal to use for the remainder of the year, I think it might be helpful. It would be really helpful because it would review some of the words that we will be reviewing now until the end of the year anyway.” Sara suggested, “What if we just did a packet for language arts words, a packet for math words, and a packet for science and social studies words?”

This suggestion was related to a word journal the teachers had already purchased for the next year entitled, *My Word Journal*, which organized vocabulary into a packet by subject area. Emily suggested, “It would be helpful too because I know I pull out different words from books that I use for book study that you could put in ABC order. You could always say ‘Hey that is a language arts word’ or ‘that is a social studies word’ so you can keep them organized.” Catherine stated, “It would be helpful so we can keep reviewing our words instead of just

learning them weekly and moving on. We could use the journals for review on a weekly basis to go back over the words.” The teachers also discussed identifying the words by the parts of speech during writer’s workshop and including them in the word journals. Emily stated, “Nouns, verbs, and adjectives are part of our S.O.L.s (Standards of Learning for the State of Virginia). There are so many things and we do not want a book that is so big.” She suggested we use a type of binder that allowed the students to add pages as the number of words to be included increased. She also felt that this would allow students to include all the words in one place and organize them by categories.

Sara shared, “If we did just two pages front and back for language arts we would be okay. Specific content words could have their own section.” Catherine stated, “We could make lists and lists of people, places, and things.” Emily suggests, “You know if we could get it down to a manageable level we could also post it on the active board as a visual reference.”

The researcher suggested, “Maybe we could use a type of folder that allowed for the words to be move around in pockets. The sample we discussed used post-it notes but maybe we could come up with something a little more manageable.” Rachel shared an idea she saw in another teacher’s classroom using plastic pages designed for storing baseball cards for math facts. She stated, “It would be perfect for reviewing vocabulary because they could flip between the word and a sentence or definition on the back but the cards did not get lost like flashcards.”

As the conversation progressed the teachers shared ideas for designing and organizing the individual word walls. It was decided that the children would use two-pocket folders to hold clear pockets generally used for baseball cards. The researcher provided the clear pockets and the teachers supplied the folders. An index card cut in half it fit perfectly in the clear pockets

and these were used by all four of the teachers. As a group, the teachers and the researcher concluded that the students would write one new vocabulary word on one side of the card and a sentence using the word or illustration on the other. This “personal word wall,” as it was called, could then be used during instruction and as a means of individual assessment. All four teachers agreed to implement use of the personal word wall in conjunction with their established classroom word walls.

Due to the short time frame from conception of the idea to implementation during the intervention, the personal word walls were observed as a part of instructional practice during two lessons. The students enjoyed seeing both sides of the card when using their personal word walls. Students were sometimes called up to discuss their words with the teacher to assess word knowledge. Use of personal word walls was observed during independent writing activities and during games designed to review word meanings. In post-intervention interviews, all four teachers indicated enthusiasm for incorporating personal word walls during the next school year.

Word wizardry strategy. Two of the four teachers incorporated “word wizardry” (Beck et al., 2002) as a part of their instructional practice during scheduled observations. The most common use of wizardry was to have the students point to a word on the word wall and share experiences from outside the classroom when the word was used. As a strategy, these two teachers felt word wizardry developed an awareness of the use of words in different contexts. Sara summarized on her strategy reflection form; “Students did become more aware of words around them and they were encouraged to listen for words in new contexts.”

Rachel's main request during her pre-intervention interview was for more games and strategies that she could incorporate in her instruction. Her implementation of word wizardry made it a game for her students that they requested on a regular basis.

Rachel combined the use of the word wall and word wizardry into a multi-day lesson. On the first day, Rachel introduced the vocabulary for *Alexander and the Terrible, Horrible, No Good, Very Bad Day* (Sindak, 1998). The vocabulary identified for instruction included unlucky, scolded, terrible, horrible, plain, and breakfast. Rachel gained the attention of her students by asking a group question in an inquisitive tone. "What does unlucky mean?" The students all stopped their chatter and looked to Rachel. Her students had become very familiar with the manner in which Rachel questioned them. She had a dramatic flair for gaining and keeping their attention.

When the students did not respond to her question, Rachel stated, "Remember it is when things are not going your way." One of the students said, "It is when you have bad luck." Rachel demonstrated appreciation for the student's response and appeared to ponder the student's answer in her head. She then said, "I guess that means the unlucky is the opposite of lucky?" The students all nodded in agreement.

"Let's look up lucky in our dictionary." The teacher used her *COBUILD Dictionary* (2008) to look up the meaning. The students had become accustomed to Rachel stopping to look up new vocabulary in the *COBUILD Dictionary* (2008). It is a resource to which Rachel turned often during her lessons. Once she found the word she shared the meaning, "It says that lucky means very desirable." Rachel again stopped and pondered the definition by placing her hand on

her chin and pretending to think. She then said, “Hmm, what does desirable mean?” The students responded with suggestions that included beautiful, pretty, and cute.

Rachel again returned to the *COBUILD Dictionary* (2008) and said, “Let’s find out.” Once she found the definition, she stated the definition, “Desirable means a strong wish to have something. We looked up three words to understand one meaning. We are really building our vocabulary today.” As the lesson continued Rachel asked students to share the meaning of each of the identified vocabulary words: scolded, terrible, horrible, plain, and breakfast.

Rachel demonstrated the meaning of the word scolded. “Jackie, sit up! You know you can’t put your head down in class. Which word would describe how I talked to Jackie? The students responded as a group with the word “scolded.” Rachel continued the lesson, “Right, I scolded or punished her for putting her head down during class.”

Rachel then asked, “Who can tell me what terrible means?” Student responses included, “awful, yucky, bad.” Rachel discussed the student examples before asking, “What does plain mean?” One student yelled out, “No decorations!” Rachel thanked the student for this boisterous response and then had students look at their shirts to see if they were plain or if they had decorations. All the students looked down to see if their shirt was plain or decorated. Many shared their findings out loud with the class.

Rachel then asked, “Horrible, what does horrible mean?” A student responded, “It is a bad day.” Rachel asked, “Can horrible describe more than just a day? Can’t we have horrible weather or a horrible cold?” The students agree and share other horrible things including a messy room, burnt dinner, or a day without recess.” After the discussion about the multiple ways

horrible could be used, Rachel asked the students questions to make sure they understood the word breakfast.

After reviewing all of the vocabulary words from the lesson, Rachel told the students, “Today we are going to be word wizards for your assignment! As a wizard you are going to listen for our vocabulary words at home or around the school. When you hear one try to remember how it was used and come back to school to share it with us. I want you to listen for these six words at home and at school. When you come back tomorrow you will get to use the magic wand to tell me where you heard the word and how it was used.” Rachel then concluded the lesson and prepared the student to leave the classroom for specials.

The following day, Rachel began the vocabulary lesson by asking the students, “Do you remember what your homework was last night? You were supposed to listen for our vocabulary words to be used outside of school and to come back and share when you heard them used. Who has a word to share?” One student raised his hand. Rachel said, “Oh wizard, where did you hear this word and how was it used?” She asked the question in a very dramatic manner which the students enjoyed. She also provided the student with a wand to use to point to the word. The student took the wand and pointed to the word *horrible*. The student then said, “My mom told me my bed looked like a horrible mess.” Rachel asked the student, “What did you mom mean when she said it looked horrible?” The student said, “My bed was not made and the covers were all messed up.” The teacher praised the “wizard” and asked for another volunteer.

Rachel called on another student who walked up to the word wall, took the wand, and pointed to the word *plain*. The teacher again said, “Oh wizard, where did you hear this word used?” The student replied, “My dad told me to eat a plain sandwich. It had nothing on it.”

Rachel praised the student and repeated that *plain* means without extra ingredients like mayonnaise or mustard. Rachel then said in a dramatic manner, “Oh teacher, why are you making us learn these words?” Rachel stated “Because you will hear or read these words and need to know what they mean. What if I tell you that I am having a terrible day and you don’t know what I mean?” Rachel went on to have other students approach the word wall and use the wand to point to and share where they had heard the vocabulary words used.

Rachel used “word wizardry” to encourage students to listen for identified vocabulary words in different contexts and as an assessment of word knowledge. She was observed using the strategy several times and varied the students she called on to allow for assessment of all of her students at different times. During her post-intervention interview, Rachel shared that she knew a lot of the students had not actually heard the word used outside of the classroom but the activity also encouraged them to think about how the words were used. She believed this attention to word meaning was as beneficial as actually hearing the word used in a different context.

Stoplight vocabulary activity. The stoplight vocabulary activity was presented for use both as an assessment of prior knowledge and a post-assessment of student vocabulary knowledge. Three of the four teachers used it as a common strategy in their vocabulary instruction. The teachers wrote on their strategy reflection forms that it was an excellent assessment of prior knowledge, provided a concrete tool to which students could relate to, and worked well in conjunction with the word wall. Emily stated, “My class worked as a team to share knowledge. One would put up a green light and would not really know the word when questioned. Another student would volunteer to them to help find the meaning.” During the

second bi-weekly group meeting, several modifications of the strategy were discussed and implemented to make it more age appropriate.

Modifications to the stoplight vocabulary activity. In the original presentation of the stoplight assessment strategy, a worksheet was presented with lines for students to write their vocabulary words next to a picture of a stoplight. Then, the students were to color the stoplight according to their independently assessed level of word knowledge (Lubliner, 2005). The teachers found that the writing in of the words on the worksheet was very labor intensive for their first-grade students. During group discussion, multiple ideas were generated for modifying this strategy.

Sara shared a vocabulary sheet she made that included a small stoplight next to the printed words.

I give them five words before we have read the story. They write the words and fill out their little stoplight next to the words. Then I have them talk to their neighbors or a small group to decide what they think the word is and what it means. Maybe one of them has heard it before or has some background knowledge that the group can use to come up with a prediction. Then we go back and read the story to check their predictions. We check the context to see if their meaning matches how the word was used in the story. We then write a kid-friendly definition to go along with the word and record it on the sheet. By Friday, they are familiar enough with the words to do a final assessment using their word journals. It allows me to see how far they have come from their prediction to understanding the meaning of the words.

In reflecting on the use of this strategy, Sara stated, “The kids would realize that they did not know as many words as they thought when asked to share a sentence for green light words. They couldn’t do it, so they had to change their color to red or yellow. It really provided an excellent assessment and organization for the writing and review of our kid-friendly definitions.”

Another modification made to this strategy came from an observation. The researcher asked Rachel to share a modification she had observed. “They took an index card (one red, one yellow, and one green) and if they hear the word, they tell me if they don’t know it, kind of know it, or really know it by showing their card. I don’t know. My kids get more into the movement rather than just coloring a sheet. So I chose to have the do a more active approach.” The researcher suggested that the cards be used in conjunction with the sheet. After some discussion, it was decided that all four teachers would implement this modification and provide their students with red, yellow, and green tag board strips. Once implemented, the modification provided a quick visual assessment of student-assessed word knowledge for each identified vocabulary word.

Emily shared a modification she made to the strategy as well. “I use it on the Active Board. I found a giant clip-art stoplight and I call on students to come up and drag the words to the red, yellow, or green on the stoplight. We then discuss the word to see where other students would have placed it on the stoplight.” The researcher shared her observation of the class voting whether to classify individual words red, yellow, or green.” Emily joked that it was low maintenance and a great use of the Active Board.

Catherine was observed using the modified strategy with her students during a phonics lesson. Though the words identified for instruction were not selected from the context of a story

or their utility as vocabulary, the lesson resulted in vocabulary lesson on several of the identified words. She began the lesson by introducing vocabulary words with the long *u* sound. The words she introduced included mute, salute, compute, flute, and cute. She told the students, “Use your red, yellow, and green stop light cards to show me how well you know the following words.” The first word she said was, “mute.” Most of the students had green cards raised and a few had yellow cards. Catherine asked, “What does *mute* mean?” One of the students replied, “Like on T.V.” Catherine responded to the student, “Yes, we can *mute* the sound on a television. So what do you think it means if we say a person is mute?” The students did not respond indicating that they were not familiar with the word *mute* in the context presented. The teacher explained, “It means a person cannot speak. Remember when we talked about Helen Keller? She was both deaf and *mute*.” Catherine then added the word *mute* to the class word wall.

Catherine then asked, “Show me your cards for whether *salute* is a green, yellow, or red word for you.” Again, most of the students held up green cards but a few held up the yellow card. Catherine then asked one student who was holding up a green card to demonstrate how to *salute*. She then asked all of the students to stand up and *salute* and added the word to the class word wall. The remainder of the lesson followed a similar pattern for the words compute, flute, and cute.

This lesson was typical of other lessons designed around the modified “stop light assessment strategy.” The use of the cards provided a tactile resource for the students to use to indicate word knowledge. It also allowed the teachers to visually scan their classes for the overall level of word knowledge for vocabulary words identified for instruction.

Kid-friendly definitions. Lessons focused on dictionary skills were social in nature and did not involve the independent use of a dictionary for copying of definitions. For instance, Emily engaged her students in the creation of dictionaries devoted to pirate words. The dictionaries were designed to convert pirate words into words the students would understand. An example of a lesson utilizing the “kid-friendly” definition strategy appears below:

Emily called her students to the big rug at the front of the room. She did not call them by their given names, but by the pirate names they had chosen for their unit on pirates. They begin the lesson by echo reading a pirate poem aloud from the Active Board. After they finished reading the poem she reviewed the meanings of several vocabulary words from the poem. She asked, “What do you do when you *embrace*?” Several students raised their hands. Rachel called on a student who told her, “It means to hug.” She asked them to think about any other meanings for the word *embrace*. She called on a student who giggled and told the class, “It also means to kiss.” The students all giggled. They reviewed the meaning of the word *booty* which Emily reminded them, is one of their pirate words. Emily asked the class, “What does the word *booty* mean?” Many of the students raised their hands. She called on a student who responded, “It means pirate treasure.” Emily praised the child for the answer. The final word they reviewed was the word was *pillage*. Emily asked, “What does it mean to *pillage*?” She called on a student who said, “It means to steal.” Emily praised the child for this answer.

Emily then read the book, *Pirate Pete’s Talk Like a Pirate* (Kennedy, 2007). She told them, “Listen as I read and see if you can hear some more words we can add to our pirate dictionaries.” Each time a child identified a pirate word, Emily wrote it on the Active Board. At the conclusion of the story, the words on the board included Jolly Roger, buccaneer, loot,

plunder, booty, and sultry. Emily then asked the students to return to their desks and to get out their pirate dictionaries. They discussed each pirate word and worked as a class to find a word from their “first-grade” vocabulary that meant the same thing as the pirate words. They decide on the following definitions by looking back to the story; a *Jolly Roger* is a flag, *loot* is stolen money, and a *buccaneer* is a member of a pirate crew. Two of the words, plunder and sultry, were defined through discussion and by consulting the *COBUILD Dictionary* (2008) for the meanings. They decided that *plunder* is another word for steal and that *sultry* means very hot. After the discussion the students copy the words and their definitions into their pirate dictionaries. They also drew a picture to illustrate the words.

Analysis of several of the students’ pirate dictionaries collected as artifacts included a large collection of pirate words defined in a “kid-friendly” manner. Other words included in the dictionaries included aye, matey, scallywags, scurvy dog, and vessel. Emily used the pirate dictionaries as a way to get her students to be more in tuned to listening for pirate vocabulary, as an introduction to the purpose of a dictionary, and also as an exercise in the creation of “kid-friendly” definitions.

During our third group meeting, Rachel shared her feeling regarding the use of the *COBUILD Dictionary* (2008) which was provided as a resource for creating kid-friendly definitions. “I love that thing (she drew out the word love in a truly loving expression). It is more on their level. The *Webster’s Dictionary* I had didn’t provide a definition they understood. It helps me because I am not a great vocabulary person and it helps me put it in words they understand. It gives examples they can relate to.” The researcher then commented, “I love to watch you modeling the use of it. You say to them, ‘Where is my dictionary?’ and turn to it so

they realize that it is not an intimidating thing to use a resource to find the meaning of new words.” All of the teachers agreed that it was a resource for creating kid-friendly definitions that they have used often.

Modifications to kid-friendly definitions. Several modifications in the formation of kid-friendly definitions were shared in group meeting discussions. The teachers shared that they tried to get the definitions down to a synonym as often as possible. Sara shared, “I do not have them write very many sentences or definitions. It is very difficult for them to give the meaning in a complete sentence. Rachel added, “My kids love the word ‘synonym’. They usually say cinnamon instead. But they are always saying ‘what is the cinnamon for that word?’ The *COBUILD Dictionary* (2008) helps me to find a good synonym for the words we are defining.”

The teachers adopted the use of a graphic organizer that incorporated both the stoplight assessment and the formation of kid-friendly definitions on one sheet. It was described earlier in the section on stoplight vocabulary. This modification was presented to the group during a bi-weekly group meeting by Sara and was used frequently throughout the intervention.

In our third group meeting, the teachers reflected on the use of the graphic organizer. Emily stated, “The picture in the chart is good because it is what they can relate to. It is so difficult for them to express what they know about words in a sentence.” Rachel and Catherine echoed her feelings about the graphic organizer.

Stop-sign cue card. The teachers did not use this strategy often. Catherine stated in her strategy reflection, “This strategy was mostly teacher-directed; students in first-grade may not be ready to do this on an independent level.” Rachel shared in her strategy reflection that she felt that it would be a great independent reading strategy to use with older children. One benefit of

the strategy, shared by two of the teachers, was that it was a way to assess background knowledge. Sara stated during her post-intervention interview, “It helped students to listen to stories critically and encouraged them to ask questions about words they did not know.”

During one particular science lesson, Sara shared the “Stop Sign Cue Card” strategy with her students, but adapted it through the use of hand held stop signs. As she read the book, *How a Seed Grows* (Jordan, 1992), the students used hand-held stop signs to indicate when a word was read that they thought would be a good vocabulary word. This allowed for words to be added to the vocabulary lesson based upon student input. When a student would raise their stop sign, Sara would take them through the steps of the strategy:

Step 1: Have I ever seen this word before?

Step 2: Are there picture or word clues to help me understand the word?

Step 3: Do I know another word that is similar that would make sense?

Student selected words included soak, carries, seed, clover, someday, oak tree, suppose, bean plant, pole beans, catches, and soil. The teacher recorded each identified word and then initiated a conversation at the conclusion of the story on which words represented the best choices for vocabulary words on seeds. The words selected for focus were flower, root, soil, leaves, stem, and seed. The words chosen to describe the workings of the parts of the flower were: soak, carries, and catches. At the conclusion of the lesson, these words were added to the class word wall.

In a group meeting, Sara shared reflections on an additional lesson where she used the strategy. “This time, I read through the story first and asked them to listen just for pleasure. The second time I read the story I asked them to listen for words they were not sure about or wanted

to learn more about. Whenever they heard a word they were unsure of, they held up their sign and I would write it on the board. After we had our whole class list, we chose two of the words to add to the three I had pre-selected. They didn't get to pick all five, but did have input on two of them. This allowed me to pick three I thought were really important and they got to pick two. It seemed that by giving them that choice, they were more interested in it and had ownership of the words.”

Sara's lessons were examples of an age-appropriate modification of the “stop sign cue card” strategy for first-grade learners. The lesson also allowed for the inclusion of both teacher- and student-identified vocabulary words. This modification was shared as a portion of the third group meeting.

“Zooming in and zooming out.” During the first bi-weekly group meeting of the researcher and intervention participants, it was determined that the “zooming in and zooming out” strategy would be confusing for first-grade learners. The strategy requires students to use higher order thinking skills in distinguishing between relevant and irrelevant content which is difficult for primary learners. After discussion between the researcher and the participants regarding possible modifications of the strategy, it was decided that it would not be used during the intervention phase of the experiment.

Assessment of vocabulary. Observations and student work samples were analyzed to determine how teachers assessed vocabulary in the enactment of the curriculum. These teachers relied heavily on oral assessment during vocabulary lessons to evaluate word knowledge. Oral assessments included both group discussion and individual questioning. The teachers made an

effort to track the students who had been assessed or questioned during group lessons through checklists. The system proved imprecise and time consuming.

Several of the strategies presented during the professional development sessions provided alternative means of assessment. Rachel was observed utilizing word wizardry as an assessment tool. She shared that it provided a “snap shot” of understanding during class discussion. She would call on individual students to share both the meaning and a sentence for identified vocabulary words. During subsequent lessons, she would focus on a different group. She felt that this was the easiest way for her to keep up with those who had participated in the word wizardry in the past.

Stoplight assessment provided an evaluation the teachers would utilize to assess both individual and group knowledge of words. Use of this assessment strategy, was observed using the word wall on an Active Board and photo-copied graphic organizers. Sara utilized a graphic organizer that included a stoplight for the students to color, a box for prediction of the word meaning, a box for actual word meaning, a box for an illustration and a final stoplight to assess understanding following instruction. This sheet was used during the introduction of new vocabulary and as an assessment at the end of a vocabulary unit to allow the students to reassess the word knowledge gained.

Written assessments included the use of word journals and individual word walls for evaluation. Following direct instruction, students in Catherine’s room were asked to write a sentence in their word journals using identified vocabulary. Sentences were shared with the class and evaluated for knowledge of meaning. Sara evaluated individual word knowledge by having students bring their personal word walls to her desk for a quick individual assessment of

identified words. Once students were able to demonstrate understanding of individual words the card was removed from the folder and slipped into the back pocket for future reference.

Across the four teachers, there were no standard or formal means of vocabulary assessment. The teachers expressed their frustration with not being able to establish standard assessments but attributed this to the developmental level of their students. First-grade students are traditionally better able to use vocabulary in oral evaluations than in written assessments. It was this factor that led to the majority of assessments being administered through oral means.

Phase Four: Comparison between Baseline Data and Intervention Data

Prior to the professional development and intervention, the participants in the experiment did not demonstrate a strong theoretical knowledge of how to select vocabulary or how to develop vocabulary knowledge in their students. The pedagogical goal was to provide professional development that would share theory on the selection and teaching of vocabulary and assess the impact on vocabulary instructional practice.

Vocabulary selection. The vocabulary selected for instruction during both baseline data collection (see Appendix J) and the intervention data collection (see Appendix K) were compiled and categorized according to whether they were sight words, Tier One, Tier Two, or Tier Three words (Beck et al., 2002, 2008). Determination of sight words was done using the Dolch Word List. Tier selection was done by using the identifying characteristics established by Beck, McKeown, and Kucan (2002, 2008). The distinctions between the tiers are “not clear-cut” and only provide a way of “framing” the selection of words for instruction (Beck, et al., 2002, p. 19).

Table 4: Vocabulary Analysis

Pre-Intervention	69 Words
Sight Words	10% (7 Words)
Tier One	23% (16 Words)
Tier Two	29% (20 Words)
Tier Three	38 % (26 Words)
Post Intervention	98 Words
Sight Words	2% (2 Words)
Tier One	26% (25 Words)
Tier Two	42% (41 Words)
Tier Three	31% (30 Words)

The comparison indicated that the Tier Two words selected for instruction increased from 29% to 42% of vocabulary words. The participants had been instructed in the use of the tiered system of vocabulary classification to encourage them to analyze their instructional practices to include Tier Two vocabulary. As explained in the first professional development session, Tier Two words are those that students will experience in written text but are not often identified for instruction. Instruction in Tier Two words has been found to impact the ability of children to comprehend complex texts (Beck & McKeown, 2007).

Prior to the intervention, the teachers indicated that the majority of the words they identified for instruction were Tier Three (content area) vocabulary words. Analysis of vocabulary of baseline vocabulary word collection supported this indication. Over the course of the intervention, the teachers continued to include Tier Three (content area) vocabulary words as a component of their instruction but also increased number of Tier Two (descriptive vocabulary) words that were identified for instruction.

Instructional practice. Prior to the intervention, the teachers said that they would discuss unknown vocabulary words during lessons or read alouds, but seldom included these words as a part of their vocabulary instruction. Vocabulary lessons were focused on words from the content areas, spelling words, sight words, and a few selected words from read alouds. These lessons included more traditional assignments such as writing sentences, copying definitions, drawing illustrations, and paper/pencil assessments.

Following the intervention, the teachers utilized strategies that allowed for the review and use of vocabulary words in multiple contexts. Catherine summarized the change in the following statement, “All the activities that we planned helped review the words over and over again. So it wasn’t just during one week; it was a week after week of spiral review that was really helpful.”

An excitement about vocabulary instruction was evident during post-intervention interviews. Sara stated, “The read alouds that I did changed because there was so much more I could do with vocabulary to make it richer for the students.” Emily echoed this sentiment in her statement that “Before I would say ‘here is a word.’ ‘What does it mean?’ And continue on, but now we are using strategies and talking about a word, classifying it as known or unknown, and adding it to our word wall.” The instructional changes that had taken place included a shift from skipping over, or quickly touching on unknown vocabulary, to enjoying incorporating vocabulary instruction and review.

Baseline data analysis indicated that all of the first-grade teachers had word walls posted in their class space but were not utilizing them during instruction. The existing word walls had become, in essence, wall paper or decorations in the room. The words listed on the existing word walls were sight words listed in alphabetical order. Following the professional

development, the strategies that were used most often were those involving the word wall including “word wizardry” and “word wall extension strategies.”

In their post-intervention interviews, all four teachers indicated that word walls were used in daily instructional practice. This usage was supported by observational data. Two of the four teachers posted their word walls on Active Boards. This allowed for sorting words, color coding by subject area, and teacher controlled access the words. By controlling when the students accessed the word wall, the teachers’ revitalized attention to it that had not been there before. It was no longer wall paper. The other two teachers posted word walls on large white boards within their classrooms. Their word walls, though a constant part of the classroom, were referenced often enough to keep the students engaged in the use of them as a resource, though the amount of interaction the students had with the word wall varied by teacher.

Prior to the intervention, a common practice was having students copy definitions from dictionaries. This was a labor intensive practice and did not support the assessment of prior knowledge or the social interaction associated with learning new words. After the professional development, the teachers modified their instructional practice to include the formation of “kid-friendly definitions.” Catherine stated, “Kid-friendly definitions are something that comes very naturally to first-grade students because you need to put it into words that they will understand. That makes a lot of sense.” The teachers would often stop and discuss unknown words with the students and consult the *COBUILD Dictionary* (2008) on a regular basis during instruction.

Phase Five: Consolidation of Findings

The pedagogical goals established for this study were to: (1) provide the teachers with sound theoretical knowledge of how vocabulary is developed and strategies to help their students

gain vocabulary knowledge and (2) to evaluate the use of the professional development to enhance vocabulary teaching practices.

The professional development sessions provided the teachers with the theoretical knowledge of how vocabulary is developed by presenting the levels of word knowledge, research on the types of instruction that support word knowledge, and a system for identifying the words that are in need of the most instruction. Additionally, the sessions provided concrete strategies that the teachers could take back and implement in their own classrooms to improve their instructional practices and support the development of word knowledge in their students.

The impact of the presentation of theoretical knowledge and strategies was evident in observations and interviews. The teachers enhanced instructional practices and included instructional strategies that were aligned with the multiple aspects of what it takes to “know” a word. The teachers learned how to select the most appropriate vocabulary to develop the vocabulary knowledge of their students, incorporated instructional practices and strategies that increased the interactions of students with vocabulary words, and initiated on-going assessment to evaluate word knowledge.

Chapter 6: Summary and Conclusions

The need for increased attention to vocabulary development in primary learners is supported by the findings of the National Reading Panel (2002). This is especially true for students from lower socioeconomic groups who enter school and later graduate with significant differences in vocabulary knowledge that continue throughout their education (Chall & Jacobs, 2003; Coyne et al., 2009; Cunningham & Stanovich, 1997; Hart & Risley, 2003). Students who do not have well-developed vocabularies struggle with comprehension and cannot always make the transition from “learning to read” to “reading to learn” (Chall & Jacobs, 2003). The relationship between reader and text is cyclical; those who know fewer words read fewer texts and hence do not develop strong vocabulary (Stanovich, 2004).

Much of this difference is attributed to how readers are socialized to literacy within their homes (Heath, 1982; McCarthy, 1997). Children from different cultures, beliefs systems, and socioeconomic groups are socialized into literacy differently. Differences arise in the materials, practices, and literacy skills within the home (Heath, 1982). Due to the lack of exposure to mainstream literacy practices, these children often struggle with literacy issues including a lack of exposure to print materials rich in vocabulary.

Teachers are faced with the challenge of trying to reduce the gap between groups to provide for the best literacy outcomes for all of their students (Stanovich, 2004). Through professional development, a link from “research to practice” can be established to help teachers bring about a reduction in the vocabulary knowledge gap between students (Fisher & Frey, 2007;

Kennedy & Shiel, 2010). Intervention is needed in the primary years to lessen the gap between socioeconomic groups and impact the outcomes for these students.

The purpose of this study was to provide primary teachers with theoretical knowledge in how vocabulary is developed and strategies to help their students gain vocabulary knowledge. Additionally, the study sought to evaluate the use of professional development and subsequent intervention to enhance vocabulary teaching practices. A formative design framework (Reinking & Bradley, 2008) was used to incorporate baseline data outlining current instructional practices and beliefs, current research into the development of vocabulary knowledge in primary learners, and effective practices in professional development in hopes of having the greatest impact on teacher practices.

The Research Questions

The study was designed to address the primary question “How is professional development integrated into current instructional practice related to the teaching of vocabulary?” The Sub-questions included, what are primary teachers’ perspectives on vocabulary instructional practices?, what are primary teachers’ current vocabularies instructional practices?, and how are existing practices enhanced following participation in professional development and intervention?

The specific changes to vocabulary instructional practices as a result of participation in the professional development varied by individual and was dependent upon level of commitment to the study, personal teaching style, and additional outside factors.

Individual differences. Each of the four participants demonstrated that they came away from the professional development and intervention with varying levels of knowledge of how

students learn words and strategies that could enhance their instruction of vocabulary words; however, the participants differed in how they utilized this new knowledge within instructional practice. As a framework for answering the research questions, first a summary is provided for each of the participants.

Sara. In Sara's classroom, evidence of accommodation of the professional development and intervention were evident in both observations and her post-intervention interview. Sara committed herself to using the tiered system of vocabulary selection to increase the number of Tier Two descriptive words she identified for instruction. She balanced this instruction with review of Tier One words and the inclusion of Tier Three words in content area lessons. During observations, Sara incorporated most of the strategies presented in the professional development sessions and discussed with the researcher how she could improve on use of the strategies in future lessons.

During her post-professional development and intervention interview, Sara shared how her word selection process had changed because of knowledge of the three vocabulary Tiers. She categorized language arts words (from reading, spelling, writing, and English) as Tier Two and content area words, (from math, science, social studies) as Tier Three. Sara shared that the strategies had provided her a method to review words repeatedly. She referred to this method as "spiral review" and felt that it helped students to remember the words they had already learned.

When asked which components of the intervention she would continue to use in her instruction, Sara said she intended to use all of them and was anxious to start the next school year using them consistently. She also identified goals she had set for herself for the upcoming year including more writing activities surrounding new vocabulary. In conclusion she stated, "It

made me a better teacher and it really wasn't that much extra work because I wanted to do it anyway for my kids. It gave me a focus."

Rachel. Following the professional development and intervention, Rachel stated that she had moved from orally reviewing vocabulary to using the strategies for review. The strategies provided concrete methods for review of new words. She easily accommodated the word wall into her instructional practice and reported that students loved it. Rachel previously had a word wall on a white board in her room, but said that as a result of the professional development and intervention she had completely "re-built" the word wall. She and the students enjoyed adding new vocabulary regularly to the word wall and color coded-content area words. Rachel then used the word wall to initiate "word wizardry" and word review games into her instruction.

Rachel was excited about the changes in her instruction and planned to carry the information learned during the professional development and intervention into the following school year. She wanted to begin the next year with personal word wall folders and the word wall. Rachel felt that participation in the intervention had provided her with strategies that would work with different types of learners and had given her an increased awareness of the importance of vocabulary instruction.

Emily. The strategy that had the greatest impact on Emily's classroom was the stoplight assessment strategy. After the professional development sessions, she was anxious to try it with her students and modified it to be age-appropriate and hands-on through the use of the Active Board. Emily felt that this strategy provided a quick check of background knowledge and provided a visual reference that was developmentally appropriate for her first-grade students.

She shared that it was a strategy that she would continue to use and modify as a part of her vocabulary instruction in the future.

In the first group meeting, Emily expressed that she had always wanted to use a word wall. In her student teaching, she had observed a lot of great word wall activities, but she did not know how to overcome the lack of wall space in her own classroom. She was excited about using her Active Board as a word wall. The Active Boards were new to the first-grade classrooms and she was anxious to incorporate it in her instruction. Several of the modifications to the word wall and assessment strategies shared during group meetings came from Emily. She posted a large stoplight on her Active Board and had students assess their words as a class.

Emily shared that she was amazed by how word conscious her students had become during the course of the professional development and intervention. She said, “It has affected the way they are seeing vocabulary. They are using it now.” Emily stated that she had gone from quickly explaining new vocabulary to “talking about a word, classifying it as know or unknown, and taking the time to find the meaning.” Her plans for the following school year were to improve her usage of the word wall and to do more with using vocabulary in creative writing.

Catherine. Catherine attended both professional development sessions and was actively engaged in the first group meeting to discuss the strategies and observations. At the beginning of the professional development and intervention stage of the study she revealed that she had been assigned a student teacher. Catherine said that this would not affect her participation in the study. Her request was that she not be observed until the student teacher was finished (week four of the professional development and intervention).

As the professional development and intervention progressed, Catherine became less and less engaged in bi-weekly group meetings and seemed distracted by the responsibility of having a student teacher. After the student teacher completed her work, Catherine opened her classroom to observations and used many of the strategies during language arts instruction. However, the intervention did not have the same level of impact on Catherine as the others.

Catherine had taken steps to re-build her word wall by including more Tier Two and Tier Three words. She had implemented the use of the colored index cards as a modification to the stoplight strategy. Many of the references made in the post-professional development and intervention interview were to strategies that were already a part of her instructional practice, like “writer’s workshop.” Catherine said she hoped to better utilize the strategies the following year.

The researcher believed that Catherine wanted to be a part of the study, but was not able to fully participate due to her commitment to a student teacher. She is a perfect example of the teachers in today’s classrooms. Teachers are often assigned outside responsibilities that make it difficult to reach the instructional goals set for them. Catherine is to be admired for the dedication she had to her student teacher, her primary responsibility at the time.

Summary. Seldom do participants in professional development sessions take away from these experiences identical knowledge nor do they implement the knowledge they do gain in the exact same way. This was true of this experiment as well. Through analysis of the data, it was evident that all the participants gained some degree of theoretical knowledge of vocabulary development. Additionally, all participants received instruction in strategies to support the

development of vocabulary knowledge. The difference between knowledge gained and ultimate impact on practice was, in the end, up to the participants themselves.

The use of professional development and intervention to enhance current vocabulary instructional included; (a) increased use of the Tier system for selecting vocabulary for instruction, (b) increased use of strategies that could help students develop vocabulary knowledge, and (c) increased word consciousness for both the teacher participants and their students. The increased attention to vocabulary selection and instruction could support an increase in work knowledge development for students.

Impacting factors. The positive and negative factors that impact a study are a consideration in any experiment but are a primary consideration in formative design experiments. Often, the impacting factors in a formative design experiment spark the greatest amount of change to key components of the study (Reinking & Bradley, 2008). Positive factors are those that enhanced the success or implementation of an intervention, whether anticipated or not. Negative factors are those that impacted negatively on the outcomes and may not have been expected at the onset of the intervention. The factors can either relate directly to the pedagogical goal or can be collateral outcomes that were not anticipated but nonetheless impacted the outcomes (Reinking & Bradley, 2008).

Positive factors. The supportive and open relationship between the four participating teachers positively impacted the outcomes of the study. The teachers worked together as a team with the researcher to share instructional practices. Though three of the four participants had taught the same grade level together previously, they seldom had the opportunity to meet

regularly to plan or to focus on one area of instruction specifically. The group meetings provided the time and the place for the development of a sense of “team” among the participants.

A collateral outcome was the overall positive feedback from the design of the experiment. The four teacher participants in the intervention all cited the support of the observations and group meetings as a factor in successful implementation of the strategies. The teachers indicated that they felt some ownership of the strategies due to the fact that the design made it possible for them to adapt and modify them to suit their needs. Teachers seldom have the opportunities to observe one another teaching, so the researcher able to observe in each classroom and share findings in group meetings. The highlighting and sharing of both successes and struggles was one of the cornerstones of the success of the study.

Negative factors/Limitations. Several negative factors emerged during the course of the study. The gap between the collection of baseline data in June of 2008 and the beginning of the intervention and professional development phase in February of 2009 may have impacted the enthusiasm the teachers felt initially. All four participants expressed in their post-intervention interviews that they would have preferred that the study had begun in the fall. They shared that by spring when the study began; it was difficult to shift practice.

Changes in faculty from the collection of baseline data to the implementation of the professional development and intervention may have also impacted the results of the study. Of the eight teachers who participated in the collection of baseline data, only five were still in the same building during the following school year and only four were still teaching first or second-grade.

Certain aspects of the study did not develop as fully as planned. These aspects included two of the strategies, zooming in and zooming out and stop sign cue card, which were not utilized as fully as the researcher might have expected. Within the formative design methodology, there is room for the modification and elimination of components that do not meet the needs of the participants. These two strategies fell under that category.

The participants indicated that the zooming in and zooming out strategy was better suited to older learners due to the complexity of the strategy. They expressed the concern that primary learners would not be able to follow the strategy during the course of a group instruction due to its complexity. Thus, it was not used by any of the teachers.

The stop sign cue card was designed as a precursor to the stoplight vocabulary activity (Lubliner, 2005) and intended to aid in the selection of vocabulary for assessment. Though not often utilized during the course of the observations, the teachers expressed that they intended to incorporate it in their instructional practice in the future.

One surprising piece of the study that did not yield the results expected was the collection and discussion of student work samples. Although the teachers brought work samples to the group meetings and shared them during observations, the data gained from these samples was minimal. This was due in part to the manner in which vocabulary were taught and assessed in the participants' classrooms. The participants did not incorporate any formal assessments of vocabulary during the study. They indicated that vocabulary was assessed through informal written and verbal assessment practices. Work samples collected included samples of student-made dictionaries, graphic organizers used during instruction, and creative writing samples. Student work samples were not collected as a component of baseline data collection. The

inability to compare baseline and intervention work samples limited the usefulness of this type of data. Additionally, much of vocabulary learning occurs contextually and is assessed through expressive measures during instruction due to the limited ability of first-grade students to fully represent meaning in written work.

Implications

Past research addressing vocabulary instruction does not yield only one direct path to the learning of vocabulary for primary learners but multiple paths and strategies for use in primary vocabulary instruction (Biemiller & Boote, 2006; Brabham & Lynch-Brown, 2002; Coyne, et al., 2009; Penno & Wilkinson, 2002; Beck & McKeown, 2007; Silverman, 2007). By creating a link between past research and current teacher practice, the future of vocabulary instruction in primary grades can be greatly impacted.

Implications for teachers. The teachers who responded to the survey by Berne and Blachowicz (2008) provided compelling implications for “what works in vocabulary instruction.” The instructional practices shared in the current study aligned with these survey results on multiple levels. Commonalities between this study and the survey included read-alouds, games, talk/discussion, word walls/banks, exposure to difficult words, connections to background knowledge, and collaboration. The call from the survey participants was for more standardized practices across both school and district-wide (Berne & Blachowicz, 2008). Professional development and intervention, as conducted, in the current study could be used to inform the establishment of standardized practices.

Primary teachers, like the first-grade teachers in this study, can improve vocabulary instruction by enhancing practices already in place. Three specific areas to consider are; (a)

selecting more descriptive vocabulary words for instruction by evaluating selected vocabulary based upon the Tier system for classifying vocabulary, (b) planning instructional activities that allow for multiple interactions with new vocabulary through word games and group activities, (c) providing interaction with selected vocabulary until the students “own” them, including being able to read the vocabulary words, use them in writing, and use them in speech, and (d) using strategies that encourage word consciousness on the part of the teachers and their students.

Evaluation of the teachers’ beliefs and practices indicated that the teachers in this study were providing vocabulary instruction during the baseline phase, but did not have the theoretical knowledge of what it takes for students to “know” or word. Research supports the direct, explicit, and continual instruction of vocabulary (Biemiller & Boote, 2006; Biemiller, 2004). Teachers need to embed continual instruction, review, and assessment of vocabulary. Teachers also need to evaluate the vocabulary they select in order to provide breadth of vocabulary selected for instruction. Use of the Tier system for classifying words (Beck, et al., 2002, 2008) provides a guide or framework to evaluating selected vocabulary. Instruction is needed in all three tiers but especially in descriptive Tier Two vocabulary.

The strategies presented during the study were selected because they supported the vocabulary instructional practices already being used by the teacher participants. The teachers made small changes in vocabulary instructional practices that led to greater opportunities for students to learn selected vocabulary. This type of change is attainable by any teacher if he or she so desires.

Attendance in professional development sessions provides one resource for learning new strategies and techniques, but teachers can also work together, as the teachers in this study did, to

enhance vocabulary instructional practice through a collaborative effort. The professional development and intervention design of the current study provides a possible avenue for exploring the establishment of consistent practices across grade-levels, within buildings, and throughout districts. The key to this type of design is the utilization of effective professional development practices followed by group meetings and observations. All of the study participants expressed appreciation of the group meetings that allowed them the opportunity to talk openly about the changes they were making in their instruction and to hear what their fellow colleagues were doing in their classrooms. The ability to discuss the implementation of new strategies and instructional practices can greatly impact the success of the professional development designed to enhance instruction.

Implications for teacher educators. Teacher education programs need to emphasize the importance of vocabulary instruction across grade levels and subject areas. By sharing the research on the impact of a less-developed vocabulary on overall educational outcomes for students, teacher educators can change the way these future teachers instruct their students. If vocabulary instructional practices receive only a small amount of focus in our pre-service teacher preparation programs, future teachers will not realize the impact vocabulary development can have on the educational outcomes of their students. Pre-service teachers need instruction on how to evaluate the words they choose for instruction, strategies to increase student interaction with new vocabulary, and exposure to the theory of what it means to “know” a word.

Methodological implications. Formative design experiments provide a possible avenue to link research and practice for the betterment of students and teachers alike. The current study demonstrated the impact teachers can have on the modification and implementation of strategies

when given the power to do so. Conducting experiments in authentic education settings allows for a direct assessment of the impact of research on practice. It provides for the researcher and participants the opportunity to modify, delete, or include components that encourages ownership of the study for both teachers and students. In the case of the current study, there was a need to adapt to both the environment and the development level of the students. Formative design experiments provide the ability to do this during the course of the study.

Implications for future research. Though we know how important it is for children have well developed vocabularies, we do not know the most effective ways to develop their vocabulary knowledge. We need to research and investigate how “growth can be fostered in instructional contexts” (National Reading Panel, 2000). Teachers in the field are the ideal candidates to test, adapt, and inform future practices in the instruction of vocabulary with primary learners. Further research is needed to tap into their experience and knowledge to determine effective practices.

Furthermore, an instructional continuum needs to be established to allow for the formation of standards in vocabulary instruction. There is a need for the establishment of consistent expectations and practices from classroom to classroom and grade level to grade level. Explicit vocabulary instruction is often “put off” until students are in upper elementary grades. By that point, a large deficit has already been established.

Traditional methods of vocabulary assessment (i.e. tests, quizzes, and copying definitions) are not appropriate for primary learners. Assessment strategies for primary learners that allow students to express their knowledge vocabulary verbally or through developmentally

appropriate means are necessary to guide instruction. Primary learners' expressive vocabulary knowledge traditionally far surpasses their reading vocabulary knowledge.

Finally, future research needs to address how to better provide teachers with professional development that supports the incorporation of research into practice. If professional development is going to impact practice and student outcomes, it must provide support beyond a traditional workshop format. Research needs to address how to better follow through with the professional development provided to ensure the greatest impact on instructional practice.

Conclusion

Rachel, Catherine, Emily, and Sara are conscientious teachers who only want the best for their students; just like most teachers across the United States and around the world. They recognized a need in them themselves and in their students for an increased focus on vocabulary instruction. By volunteering to participate in this study, they opened themselves up to evaluation of their instructional practices in hopes of making positive changes for their students. They eagerly participated in observations, group meetings, and interviews to not only improve their instructional practices but to make an impact on the research base of vocabulary instruction for all educators.

Following participation in the study, the teachers demonstrated varying gains in theoretical knowledge of word learning in their practice, interviews, and in the climate in their classrooms. They eagerly embraced the Tier system for classifying vocabulary, the modification of word walls, and the inclusion of vocabulary instructional strategies all in hopes of increasing the word knowledge of their students. This knowledge may forever change the way these teachers select vocabulary and provide instruction their students.

Their word consciousness behaviors were mirrored in their students who also became more word conscious. Read alouds and content area lessons were peppered with student initiated vocabulary discussion. “Add it to the word wall” became the cry of many of the first-grade students who were excited to be learning new words and wanted them accessible within their classroom environment. Through word games and strategies, students were able to gain multiple interactions with vocabulary words which could lead to a greater depth of knowledge of the identified words. Additionally, the words their teachers were identifying for instruction went beyond the usual Tier One words, Dolch Sight Words, and content areas to the inclusion of many more descriptive vocabulary words. This increased attention to descriptive vocabulary could lead to increased comprehension as their reading skills increase.

There is a strong need for increased attention to vocabulary instruction for primary learners. It is essential that we narrow the vocabulary gap between socio-economic groups to impact the educational outcomes for all learners. This study provides one possible avenue for providing teachers with instructional strategies and support to make changes in practice to narrow the vocabulary gap. By increasing theoretical knowledge, modifying instructional practice, and establishing professional support, teachers can feel empowered to make changes to improve their vocabulary instructional practices and narrow the vocabulary gap for their students.

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Appendix A: Informed Consent of Participants

Virginia Polytechnic Institute and State University

Title of Project: Practices and Perspectives of Primary Language Arts Teachers:

A Look into an Initiative to Improve Vocabulary Instruction at One Elementary School

Investigators: Dr. Mary Alice Barksdale

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Purpose of this Research Project:

- The purpose of this study is to investigate W.E. Cundiff Elementary School's initiative to improve vocabulary instruction and to determine specific strategies which can be used to improve the instructional practices of primary teachers.
- Only first and second grade teachers will take part in the study.
- You, as the subjects, will be observed during two sections of your language arts lesson during which field notes will be taken on the different types of instructional practices used specifically in the teaching of vocabulary.
- At the conclusion of the observations a one-on-one interview will be set up to discuss with you the successes and challenges you face when teaching vocabulary. Additionally, we will discuss your philosophy behind the instructional practices you use within your classroom.
- You will not be identified within the study by name or any identifying characteristics. I do not foresee any potential risks to you while participating in the study.
- There will be no monetary compensation for participating in the study.
- The data collected will only be accessed by the researchers involved and not by any other individuals.
- At any point in the study process you have the freedom to withdraw from participation.

I _____ voluntarily agree to participate within the Primary Vocabulary Study. I understand that my responsibilities within the study are to allow two observations of my language arts instructional period and I consent to a one-on-one interview at the conclusion of the observations.

I have read the Consent Form and the conditions of this project. I have had all of my questions answered. I hereby acknowledge the above and give my voluntary consent:

Signature: _____

If I should have any questions about the protection of human research participants regarding this study, I may contact Dr. David Moore, Chair Virginia Tech Institutional Review Board for the Protection of Human Subjects, telephone (540) 231-4991; email: moore@vt.edu; address: Office of Research Compliance, 2000 Kraft Drive, Suite 2000 (0497), Blacksburg, VA 24060

Appendix B: Survey

Grade Level: _____

Years of Teaching Experience: _____

1. Where do the vocabulary words identified for instruction in your classroom come from?

Basal Reader

Content Areas

Trade Books

All of the Above

Other:

2. How many words do you identify for vocabulary instruction during a typical week?

3. Do you believe students need to be able to read vocabulary words before they can understand their meaning?

Yes

No

4. Are your vocabulary words also used as spelling words?

Yes

No

5. Describe a typical week of vocabulary lessons within you classroom?

6. Are there any specific philosophies or methodologies you identify with in your vocabulary instruction?

7. Please list any strategies you use for vocabulary instruction. (Ex: Graphic Organizers)

8. How do you evaluate your students understanding of words identified for vocabulary instruction?

9. Have you read any articles, magazines, or books related to vocabulary instruction recently? If so, please list.

10. How have your practices changed over the course of the last year as a result of the school wide vocabulary initiative?

When complete please place in the attached envelope and give to Christina Adams before June 4, 2008. Thanks! Nancy Bradley

Appendix C: Professional Development Outline - Session One

Identifying Words for Instruction

Why Focus on Vocabulary?

First-grade children from higher SES groups know about twice as many words as lower SES children. (Graves, Burchetti, & Slater 1982; Graves & Slater, 1987).

Student entering first grade with larger vocabularies graduate with vocabularies which are often twice that of their lower-performing classmates. (Graves, 2006).

Why the difference?

The Matthew Effect “The Rich Get Richer and the Poor Get Poorer”: poor decoding skills, lack of exposure to text, and difficulty of the reading materials makes early reading experiences frustrating and they fall further and further behind.

Language Socialization Factors

Fourth Grade Slump: Don’t transition from “learning to read” to “reading to learn”.

Levels of Word Knowledge

Stage 1: Never saw it before

Stage 2: Heard it, but I don’t know what it means.

Stage 3: Recognize it in context and I think it is similar or related to something I know.

Stage 4: I know it well and I can read it, use it in conversation, and use it in my writing.

How do student learn new words?

Word knowledge is not the ability to regurgitate a complex definition in the context of an assignment or assessment.

Word knowledge is?

Which Words?

Words have different levels of utility.

Tier 1: Common/Familiar Words

Examples:

baby	dog
clock	cat
walk	run

Characteristics:

Found in everyday conversation.

Easily understood by most students.

Rarely require intensive instruction.

Tier 1 Teaching Strategies

Demonstrating the meaning of words through everyday classroom routines.

Thinking out loud when you come across a word your students may or may not understand such as clear, strike, stroke, etc. (Refer back to words chosen from texts.

Draw attention to words in their conversations that they are or are not using properly. Add these words to spelling lists, word study lessons, or post as sight words to be revisited regularly.

Tier 2:

Characteristic of Written Text

Examples:

Elegant	Hero
Solo	Pout
Sprinted	Furious

Characteristics:

Found in written text.

Primarily adjectives and often have multiple meanings.

Tier 3: Content Area Vocabulary

Examples:

Isotope	Thermometer
Lathe	Piano
Peninsula	Caterpillar

Characteristics:

Limited to specific domains or content.

Low frequency of occurrence in written text.

Group Categorizing Activity

Step One: Divide into groups of two or three to find three to five words from text for each tier.

Step Two: Write the word on post-it note cards and place on corresponding tiers on poster boards.

Strategy: Stoplight Assessment

Red Words: "I don't have a clue!"

Yellow Words: "The word seems familiar."

Green Words: "I own it!"

Stoplight Activity

Step 1: Fill tier two words into provided vocabulary stoplight activity sheet.

Step 2: Put yourself in the place of your students in assessing the identified words as red, yellow, or green.

Stop Sign Cue Card

Step 1: Have I ever seen this word before?

Step 2: Are there picture or word clues to help me understand the word?

Step 3: Do I know another word that is similar that would make sense

Conclusion and PMI

Appendix D: Professional Development Outline - Session Two

Strategies for Vocabulary Instruction

Which Words?

Words have different levels of utility.

Tier One Words:

Common or Familiar Words

Characteristics:

Found in everyday conversation.

Easily understood by most students.

Rarely require intensive instruction.

Apple	Tall	Down
Love	Tree	My
Door	Picture	To
Pet	Jug	Bed
Name	Ghost	And
Birds	One	Top

Tier 2:

Characteristic of Written Text

Characteristics:

Found in written text.

Primarily adjectives and often have multiple meanings.

Grand	Goblets	Poor
Mourners	Fainter	Young
Ancient	Gasp	Hollow
Loomed	Quite	Distant
Scrolled	Frightened	Frolicking

Tier 3: Content Area Vocabulary

Characteristics:

Limited to specific domains or content.

Low frequency of occurrence in written text.

Settle	Slopes	Avalanche
Orchard	Swamp	Theater
Wilderness	Toad	Piano
Fangs	Many	Mirage
Sarcophagus	Pyramid	Mummies

Levels of Word Knowledge

Stage 1: Never saw it before

Stage 2: Heard it, but I don't know what it means.

Stage 3: Recognize it in context and I think it is similar or related to something I know.

Stage 4: I know it well and I can read it, use it in conversation, and use it in my writing.

To Really "Know" A Word ...

it takes students multiple exposures in a variety of contexts to add that word to their lexicon of word knowledge (Nagy and Scott, 2004).

Strategy One: Creating Student Friendly Definitions

The first step is to characterize the word within the context of the story.

The second step is to create simple explanations using everyday language.

The third step is to use that word in a sentence that reflects the meaning of the word

Dictionary Facts

Definitions are formatted in a concise manner to conserve space.

Complex alphabetization skills are needed to utilize guide words.

The phrasing used is often complex and not based on familiar conversational language.

Most words have several variations of definitions.

Few dictionaries have changed since the early 1600's.

Anatomy of A Definition

in·fant

n.

A child in the earliest period of life, especially before he or she can walk.

Law A person under the legal age of majority; a minor.

adj.

Of or being in infancy.

Intended for infants or young children

Traditional vs. Learner's Dictionaries

Activity One

Step One: Select a word from the tier two words identified in the first session.

Step Two: Identify the context from the story within which the word is used.

Step Three: Define the word using simple everyday language or use the Co-Build Dictionary.

Step Four: List words that you know that are similar in meaning.

Step Four: Use that word in a sentence that reflects the meaning of the word

Strategy: Re-Building The Word Wall

After words have been defined through the use of kid-friendly definitions, post them on construction paper bricks and add them to the Word Wall.

The Word Wall provides a point of reference within the classroom for new vocabulary and provides a visual representation of children's developing vocabularies.

Evaluate five to six words each week using the spotlight assessment strategy. If all the students consider certain words a “green” words, remove them from the wall

Word Wall Extension Activities

Play “I Spy” with the word wall.

Write the words from the word wall on vegetable shapes and make word soup. Place the words in a large cauldron or bowl and have students to come up and get a ladle full to use in creative writing or in writing of individual sentences.

Take the bricks off the word wall and give a word to each student. Have the sort themselves according to pre-determined categories such as parts of speech, word families, synonyms, or antonyms.

Strategy : Enhancing Wear a Word Wednesday

Choose words from the word wall or content area vocabulary.

Place a word on the backs of each student. Students then get into pairs and allow the other person to see their word. The other person gives clues to help them figure out their words. Once they have guessed their words they have to share their word with the class and use it in a sentence.

Mix up the words and start again!

More Wear A Word Wednesday Extension Activities:

Get together with another class and form partners. The partners must then introduce their new friend, define their new friend’s word, and use the word in a sentence.

Call students to line up by calling out the student’s word and having them use it in a sentence before they can line up.

Have students put themselves in order alphabetically using their words instead of their names.

Activity Two: “What Word Am I”

Each person will be given a secret word from the list of tier 2 words identified in session one.

Meet up with at least three people to give them clues to your word.

Once they have guessed your word and you have guessed theirs, trade words move onto another individual.

Strategy: Word Wizardry

Ask students to look and listen for identified vocabulary outside of the story context and to come back and share their discovery with the class. This provides for the discussion of words in multiple contexts and for informal evaluation of word understanding. Track the sharing of words through a system of tally marks.

Have a wizards hat or wand for them to use when the return to class to share their discovery (Beck et al., 2002).

Word Wizardry Extension Activity:

Develop word consciousness by allowing students to take turns holding the wand as you read.

When they hear a word they are not familiar with they raise the wand. Discuss this word and add it to the word wall.

Strategy Five: Zooming in and Zooming Out

The first step to this strategy begins with a class brainstorm (zooming out).

The second step is to read a selection of text on the topic (zooming in). Students record new or important information on a fact sheet.

The third step is a return to the brainstorm and categorizes the information as “most important” or “least important” (zooming in).

The fourth step involves the creation of a “similar to” category which links prior knowledge or related subject areas to the new topic (zooming out).

(Harmon & Hedrick, 2000)

Activity Three

Work as a class to complete a “Zooming In and Zooming Out” Lesson.

Topic: Artifacts

The Goal is ...

To encourage, track, and assess the number and quality of the interactions the students have with their given words.

~and~

To provide multiple exposures to develop the students lexicon of word knowledge

Instructional Resources

Beck, I.L., McKeown, M.G., & Kucan, L.(2002). *Bringing Words to Life: Robust Vocabulary Instruction*. New York/London: Guildford Press.

Beck, I.L., McKeown, M.B., Kucan, L.(2008). *Creating Robust Vocabulary: Frequently Asked Questions and Extended Examples*. New York/London: Guildford Press

Harmon, J.M. & Hedrick, W.B. (2000). Zooming in and zooming out: Enhancing vocabulary and conceptual learning in social studies. *The Reading Teacher* 54(2), 155-159.

Lubliner, S. 2009). *Getting Into Words: Vocabulary Instruction that Strengthens Comprehension*. Baltimore, MA: Paul H. Books Publishing.

Nagy, W. & Scott, J. (2004). Vocabulary process. In Ruddell, R. & Unrau, N. (Eds.) *Theoretical Models and Processes of Reading* (5th ed., pp 574-593). Newark, DE: International Reading Association.

Appendix E: Weekly Instructional Plan

<p>Monday</p> <p>Goal: Introduction of new text and the contextualization and defining of new vocabulary.</p>	<p>Activities:</p> <ul style="list-style-type: none"> • Introduce and Read Trade Book • Identify Vocabulary for Instruction • Use Stoplight Assessment and Clarifying Cue Card to discuss words. • Create Student Friendly Definitions • Post on Word Wall or Class Display • Assign Wizardry Assignment: Listen to and look for vocabulary at home and at school.
<p>Tuesday</p> <p>Goal: Investigation of varying context and review of story contextualization.</p>	<p>Activities;</p> <ul style="list-style-type: none"> • Word Wizardry: Have students use a wand to point to word on word wall and describe the context where they found it at home or in school. • Re-read story stopping to discuss student identified words for discussion. Add student identified words to the word wall.
<p>Wednesday</p> <p>Goal: Allow students to express understanding of new vocabulary and vocabulary identification skills.</p>	<p>Activities</p> <ul style="list-style-type: none"> • Wear a Word Wednesday: Review vocabulary and identify a word for each child to wear and explain. Incorporate one of the extension activities.
<p>Thursday</p> <p>Goal: Active review of vocabulary words and student friendly definitions.</p>	<p>Activities</p> <ul style="list-style-type: none"> • Word Wall review and extension activity
<p>Friday</p> <p>Goal: Assessment of word knowledge and word bank maintenance.</p>	<p>Activities</p> <ul style="list-style-type: none"> • Revisit Stoplight Assessment: re-evaluate word knowledge of identified words. • Organize words into “word bank” for future reference.

Appendix F: P.M.I.

PLUSSES

MINUSSES

INTERESTING POINTS

Appendix G: Weekly Summary Sheet

Date: _____

Vocabulary Words for the Week:

Vocabulary Words were selected from: (ex. content area or text)

Instructional Strategies Used:

Stoplight Vocabulary _____

Word Wall _____

Stop Sign Cue Card _____

Word Play _____

Student Friendly Definitions _____

Word Wizardry _____

Vocabulary Words were assessed by: (ex. activity, quiz, etc.)

Appendix H: Pre-Intervention Interview Protocol

Name:

Years of Experience:

Years at South Elementary:

Education:

Question One: What are your impressions of the current level of vocabulary knowledge of your students?

Question Two: Do you feel that your students are better able to express their vocabulary through discussion or through writing activities?

Question Three: What activities or resources are available in your classroom to encourage your students to use the vocabulary taught in class? (Ex. Words Walls, Vocabulary Journals, etc.)

Question Four: Describe a typical vocabulary lesson within you classroom?

Question Five: Where do the vocabulary words that you teach your students come from? (Examples: text, content area classes, trade books, conversation?)

Question Six: Have you ever attended any professional development related to enhancing your vocabulary instruction?

Question Seven: Are there any specific philosophies or methodologies you identify with in your vocabulary instruction?

Question Eight: What purpose do read alouds play in your classroom currently?

Question Nine: How do you choose the books you use during read alouds?

Question Ten: Do you believe students need to be able to read vocabulary words before they can understand their meaning?

Question Eleven: What changes in the current supply of instructional materials or teacher resources do you feel would help you improve the vocabulary instruction within your lessons?

Question Twelve: Do you have any specific areas which you feel I could help you enhance regarding the instruction of vocabulary within your classroom?

Appendix I: Post-Intervention Interview Protocol

Question One: What has your experience been like participating in the vocabulary intervention study?

Question Two: Do you feel there has been an impact on your instructional practices related to the teaching of vocabulary as a result of your participation in the professional development and intervention study?

Question Three: Which, if any, strategies do you feel best enhanced your instructional practices?

Questions Four: Are there any of the strategies which you feel did not adequately address the vocabulary needs of your students?

Questions Five: Did you personally benefit more from the original professional development sessions or from the small group meetings held bi-weekly?

Question Six: Are you implementing the tiered system of vocabulary identification as you select vocabulary to focus on during direct instruction?

Question Seven: Have you noticed changes in the level of understanding and application of vocabulary words within your students?

Question Eight: How has this experience been better/worse than other professional development opportunities you have participated in?

Question Nine: Are there any areas that you feel you could have used more or less instruction in related to the materials presented?

Question Ten: Have any of the instructional strategies presented become part of your weekly vocabulary instructional routine?

Question Eleven: Did you feel that your opinion was valued in review and enhancement of the vocabulary strategies presented?

Question Twelve: Would you recommend participation in this type of study design to fellow teachers? Why or why not?

Appendix J: Pre-Intervention Vocabulary Analysis

Sight Words	Tier One	Tier Two	Tier Three
From Had Let After Ball Ask School	Bat Full Less Throw Catch Peel Glove Skin Hair Coach Fur Field Player Team Baseball Grab	Plump Snug Fierce Nodded Bargain Spoiled Boost Marvelous Exchanged Delivered Scorched Villain Unusual Remarkable Gradually Inquiring Dreadful Discover Prowling Fragile	Mammal Whale Claw Frogs Dolphin Extinct Asteroid Orbit Meteor Barter Forest Non-living Living Woodland Pond Migration Desert Hibernation Grasslands Habitat River Ecosystem Stream Arctic Croquet Gully

Appendix K: Post-Intervention Vocabulary

Sight Words	Tier One	Tier Two		Tier Three
Seed Flower	Cute Salute Huge Enjoy Trip Plain Invisible Colorful Beautiful Chase Gallop Awesome Perfect Unlucky Terrible Horrible Animal Breakfast Soak Absorb Cheer Crooked Gigantic Wild Tame	Mute Compute Dazzling Wallow Scolded Pillage Stubborn Irritable Cranky Slathering Swabbing Journey Voyage Curious Delicate Mumbling Tremble Barricade Handsome Tidy Sturdy	Embrace Hesitate Enormous Halt Confess Valuable Dim Bargain Misbehave Refuse Unpleasant Strict Greet Mock Graceful Shuddered Swift Fierce Marvel Darting	Flute Harp Ogre Widow Booty Jolly Roger Buccaneer Pirate Scurvy dogs Sallywag Chantey Chest Moat Root Soil Leaves Stem Tailor Cycle Porridge Climate Equator Location Flock Habitat Shelter Migrate Hibernate Appendages Shoot