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The effects of using Boardmaker picture-symbols in thematic units on the expressive vocabulary of kindergarten students

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**THE EFFECTS OF USING BOARDMAKER PICTURE-SYMBOLS
IN THEMATIC UNITS ON THE EXPRESSIVE VOCABULARY
OF KINDERGARTEN STUDENTS**

Thesis

Submitted to

The School of Education and Allied Professions

UNIVERSITY OF DAYTON

In Partial Fulfillment of the Requirements for

The Degree

Master of Science in Education

By

Elizabeth A. Perry

UNIVERSITY OF DAYTON

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WE HEREBY APPROVE THE MASTER'S THESIS SUBMITTED

BY

Elizabeth A. Perry

ENTITLED: The Effects of Utilizing BoardMaker Picture-Symbols in Thematic
Units on the Expressive Vocabulary of Kindergartners

AS PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

Master of Science in Education


Chair

7/21/08
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ABSTRACT

The purpose of this study was to explore the effect of using picture-symbols on the expressive vocabulary of kindergarten students. Explicit teaching, compared to incidental exposure, was also a focus of this study. Additionally, looking at how low socio-economic status affects a child's home literacy environment.

This became a mixed-method study as both quantitative data and qualitative data were analyzed and interpreted. It began as an experimental design, which then led to a correlation study. The methodology tracked the number of target vocabulary words the students used in pre- and post-tests and in surveys taken by the participants and their families. The researcher also kept a field journal, which was examined for emerging themes.

An analysis was conducted to explore the difference in the pre- and post-tests for the treatment group and the control group from two units of study, the zoo and the ocean. Interviews were transcribed and coded in order to collect the data. The surveys and questionnaires were also used to rate the home literacy environment. Free/reduced lunch forms were collected to determine the students' socio-economic status. These data were then analyzed to find

correlations among them. The interviews were also used in the qualitative data to find common themes, as were the observational notes.

The statistical evidence from this study showed few significant conclusions. The first conclusion supports the *Matthew effect*, because the more zoo words a student knew, the more ocean words they were likely to know. This study did not support the literature, which found low socio-economic status students were likely to have few literacy opportunities.

The qualitative data suggested the importance of the targeted vocabulary and their display in the classroom. Three themes emerged from the data including: Word Wall as a Resource, Self-Initiated Vocalization, and Participation in Read-Alouds.

Overall, it was concluded that the qualitative data revealed the positive effects the picture-symbols had on the students in the classroom. Although statistical evidence did not show any significant correlations, the observational notes and interviews provided insight into the benefits of this intervention.

DEDICATION

My success is never mine alone, for it is shared with those around me whom support my efforts and me. I am lucky enough to be surrounded by people who are knowledgeable, and are willing to share their wisdom with me. And for that I am sincerely thankful.

First I would like to dedicate this to my husband, whose love and support is constant as I strive for all of my goals. I also want to thank my parents for my love of learning and instilling in me dedication and perseverance. To them, in everything I do, I am forever grateful for such amazing support. My sister and brother have also provided continuous support in all I do. My family is the most important thing in the world to me. Thank you for everything you have given me.

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I would also like to thank Dr. Jackie Arnold who helped me develop my study and refine my ideas, leading me to research an intervention accessible to all teachers. And thank you, Dr. Diana Hunn for providing valuable insight into the quantitative data I had collected, and for giving me the courage to analyze it.

My appreciation is also extended to Linda Coulles, the speech pathologist at my school, would has encouraged and supported my interested in vocabulary development. Rosie Miller, my aide, was also an invaluable part of this study. Knowing they were there, encouraging me is unforgettable.

Finally, I want to express my gratitude to my students. Their excitement in helping me with my project was motivating and inspiring. I appreciate their patience and their fortitude. Also to their parents, thank you for agreeing to help with the study. Students and families, your time and willingness brought life to this study.

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CHAPTER I

INTRODUCTION

"Hey, what's that?" a morning student of mine asks incredulously, as if something had dared happen without him. He was pointing to a picture-symbol of a buoy that had been posted on our vocabulary word wall.

I answered, "It's a buoy."

He replied, "I didn't get that one. Was it 'cause I wasn't here yesterday?"

Surprised, I said, "Yeah, it was. It is a buoy."

"A buoy?"

"Yeah, it tells where ships shouldn't go because the water..." I couldn't finish because he had gone on to something else. But he had noticed. He was aware. And he heard another vocabulary word that might have gone on unspoken and unheard because we were using the picture-symbols with our storybooks, and posting them in the classroom.

I teach in a low socio-economic status (SES) neighborhood, in an extended day kindergarten program that was developed for the purpose of decreasing the widening academic gap for the students who attend our school. Our district offers half-day kindergarten and the staff at my school felt this was

not sufficient for the students who will move on to first grade in our building because their language skills were holding them back. The principal and teachers felt it would be beneficial for the students to be in the care of teachers whose use of language would offer to them a whole new world of words, rhetoric, and clarity. They wrote a grant that pays for a teacher to be in school with kindergartners for the second half of the day. My morning class comes to school with me, and after lunch, is bussed over to their state-mandated kindergarten for the afternoon. The opposite is true for the afternoon class – they start at our Early Childhood Center for the morning and extend their kindergarten experience in the afternoon by attending my classroom in the afternoon.

As the developers for this new program, we were afforded the luxury of creating our own quarterly assessments. We chose the focus of this program to be reading, writing, math, and language. We felt these were the skills in which the students would need extra instruction to have a strong foundation for academic success.

In my school district, to create assessments teachers looked at the state standards and chose ones they felt were "Power Standards", those critical for student learning. From these Power Standards, they created quarterly checklist goals. For this program, we followed a similar framework. We selected standards that were important and that had not made the checklists at the Early Childhood Center. The group also selected goals from the pre-existing district kindergarten checklists and extended the expectations. From these standards we created quarterly checklist goals, which guides my instruction. Since it was

only my second year teaching, and my first year in this new building when I took part in this process, I was surprised by the seeming lack of challenge in the assessments we had created. I also found it curious to have added an entire section for language as our curriculum. As the first year of the program unfolded, my curiosity was answered. I became frightened by what I thought the students should know versus what they actually knew.

It struck me the most in my third year of the program, as I was teaching a guided reading group. We were reading a predictable text about sports and the reading strategy we were focusing on was "Look at the picture." Each page started with "I like..." and there was a word with a small drawing above it, as well as a color photograph filling the page to support the readers. The students I was working with were unable to use this strategy because they did not recognize the picture and did not know the word. What startled me was the students' lack of basic vocabulary such as basketball and football. Sadly, it did not surprise me that they did not know tennis, golf, and soccer. While working with this demographic for three years, I had begun to understand the words with which they had never come into contact. Soccer, tennis and golf are not mainstream sports, and my students had rarely, if ever, even seen them played before, let alone known the words.

It was that moment when I became determined to provide my students exposure to as many words as possible, enabling them to understand the world around them. So many assessments they encounter in school will ask them to recall information and utilize knowledge of experiences they do not have. This

will affect their responses to writing prompts as well as their reading comprehension. At a time when tests are becoming increasingly important, I do not want my students to fail because they do not know the vocabulary needed to answer comprehension questions -- even though they can read.

Not only is their low vocabulary affecting their ability to respond to what they have read, it does not allow them to use the reading strategies we teach in our district. The strategy most often used by my kindergartners is to look at the picture. They are very good at remembering to rely on this strategy if needed, but when the picture is unfamiliar, it does not help them figure out the words they are trying to read. They are also taught, "Get your mouth ready for the first sound." This strategy enables them to use the picture clue, as well as the textual clue to help them determine the correct word that matches the picture. This is a difficult skill for readers with low vocabulary.

Another strategy is to ask, "Does it make sense?" Without vocabulary skills, material the students have read often does not make sense, so this self-monitoring skill is not useful for them when checking their reading. Educators are often asking readers to answer that question when they are listening to a child read. If they were reading, "I like bread and jam," they may mistake it for "I like bread and jump." If they read the text correctly, I like bread and *jam*, to them jam may mean good music, or a slam dunk in basketball, so that makes as much sense as bread and jump. To a child with limited vocabulary, very little of what he reads makes sense, so relying on context clues is a difficult concept to teach

them. These reading strategies are more beneficial to readers who have stronger vocabularies.

The National Reading Panel (2000) states that a critical component of learning to read is vocabulary knowledge. They reflect that the reader is taught to translate unfamiliar words into speech, which is benefited by knowing letter-sound relationships. Educators are assuming this transformation from print into oral language will make it easier for the student. This benefit comes about:

If the resultant oral representation is a known word in the learner's oral vocabulary. If the resultant oral vocabulary item is not in the learner's vocabulary, it will not be better understood in print. Thus, vocabulary seems to occupy an important middle ground in learning to read. (p. 4-15)

A student needs to have the word in their oral vocabulary, before it can be completely understood in print.

Vocabulary is one of the many areas that affect students' ability to become strong readers and writers. The Ohio Department of Education (ODE) states vocabulary acquisition is "a critical part of reading comprehension." The National Reading Panel (2000) states, "reading vocabulary is crucial to the comprehension processes of a skilled reader" (p. 4-15). When students have a low vocabulary, it negatively influences their ability to comprehend, analyze, and respond to the information they have been given. This deficit begins before the students come to school, and as they and their peers continue through their schooling, those with low vocabularies need to be able to close the gap in order to achieve the level of reading and writing that is required. "Language skill is

directly related to achievement in and adjustment at school, because language forms the basis for the formulation of questions, elaboration of knowledge, and reduction of ambiguity in new learning situations" (Naude, Pretorius, & Viljoen, 2003, p. 272).

Vocabulary development should start at home, but unfortunately, the verbal interaction children receive is not equivalent for all children. Those who live in poverty often come to school with fewer readiness skills. Classroom teachers need to be able to compensate for these differences through implicit and explicit teaching of new words and concepts.

It is clear that vocabulary development is an essential part of a child's success in school. Those students who are coming from low socioeconomic homes could be at a disadvantage, having experienced little early literacy skills at home or in the child-care setting. Teachers can, with systematic and purposeful planning, enhance the language development of low-language students. Their comprehension and fluency, their analysis and evaluation of texts, and their basic understanding of what they read is hindered by a lack of oral language. Teachers have the ability to close the gap for these children, and further research needs to be done to pinpoint the areas and techniques most beneficial for students.

Significance of Study

Vocabulary is a critical component of a student's ability to learn to read and write successfully. "Learners' vocabulary, their comprehension and the flexibility of their language usage as a medium for thinking and communication"

has a direct influence on their ability to learn from formal education (Naude, et al., 2003, p. 273).

The students participating in the Extended Day Kindergarten program generally come from low socio-economic homes. They receive less interaction with language than middle class children, which has a negative impact on their academics. The 2004 Forum on Child and Family Statistics compared those "living below the poverty line were also significantly less likely to have been read to daily by a family member than children living at or above the poverty threshold (46% versus 60%)" (Green et al., 2006, p.1). Some students may come into a classroom with limited exposure to language, early literacy and school readiness skills.

Often, students do not come to school with the necessary skills to achieve the reading and writing standards the schools require. Classroom teachers must make accommodations for the children's deficiency and enable their students to gain the essential learning crucial to achieve success. Kirkland and Patterson (2005) suggest planning the curriculum in themes. This allows for the children to incorporate the language across content areas. "It is through the planned, thoughtful orchestration of these resources that children build language quite naturally" (p. 395).

Another intervention to increase vocabulary was suggested by Wasik and Bond (2001). Teachers were instructed to first introduce the target vocabulary, show the children the object that represented the vocabulary, and read the book, while doing so, asking open-ended questions that promoted discussion, not

simple yes and no answers. The intervention teachers were also given a box of props organized around themes. In addition to the books and props, the intervention teachers were also instructed to follow up the book reading with an extension activity, which would allow the children more exposure to the vocabulary words.

As expected, repeated exposure through books and other opportunities, along with the story props significantly increased the amount of vocabulary learned during the 15 weeks. (Wasik & Bond, 2001) Each of these techniques allowed the children meaningful opportunities to use the vocabulary words in context and provided the motivation to do so. The intervention teachers were also observed to use the words more often when teaching. Instead of referring to the vocabulary terms as pronouns or pointing to it, they were more apt to use the correct label for the object. This study suggests that in a Title 1 preschool, it is possible to implement an effective intervention to increase students' vocabulary.

Using the previous study as a base, I examined the effectiveness of including pictures as my extended instruction, instead of props. Props can be costly and require storage, whereas pictures are inexpensive and readily available to more educators. They are also easier to send home with students to practice vocabulary. The Wasik and Bond (2001) study showed that the use of props can be beneficial to the improvement of vocabulary. The goal of my study was to extend this research by making the intervention more accessible to classroom teachers.

Statement of the Problem

Few research studies were found which examined the effectiveness of utilizing picture-symbols in the classroom to increase students' vocabulary. This study addresses the need for further research pertaining to picture-symbols. The purpose of this study was to investigate the ways in which utilizing BoardMaker picture-symbols to support thematic vocabulary affected the expressive language of kindergartners. My question can be broken down into three main areas I explored: low socio-economic status, the academic importance of vocabulary, and extended instruction. Specifically, the question that was the focus of this study was: How does the use of thematic read-alouds, with BoardMaker picture-symbols as further intervention, affect the expressive vocabulary knowledge of kindergarten students of low socio-economic status?

Research Questions

The specific research questions explored in this study were:

- a. What affect does low socio-economic status have on students' home literacy environment?
- b. Did BoardMaker pictures increase the kindergartners' use of thematic vocabulary in an oral discussion?
- c. Did the extended instruction result in greater word learning than the incidental exposure in kindergarten?

The first component of the study examined the influence that a low socio-economic home environment has on students. Hart and Risley (1995) concluded that by preschool, a child living in a middle class home hears over 13 million

more words than a child living in poverty. This gap continues to widen as the children progress through school. Boote (2006) states average children in second grade know approximately 6000 root words, whereas the lowest group has only learned 4000. With the gap at 2000, equivalent to two grade levels, the gaps seems to persist throughout the elementary schooling. The *Matthew effect* (Stanovich, 1986) is an idea that suggests the more vocabulary a child knows, the more he is able to acquire. This is a terrifying concept considering that some students will enter school with very little vocabulary knowledge. The *Matthew effect* lends itself to the belief that the gap will only continue to grow.

Attaching symbols to the new vocabulary is the second component of this study. Little research has been found on this topic. Most of it covers the use of storybooks, but does not explicitly state the focus being on the symbols. Mayer-Johnson, a company that created BoardMaker, a software program that facilitates symbol-based communication, defines a picture as an illustration in a book or a drawing. To them a picture conveys a great deal of information at once, while a symbol focuses on a single concept. The Mayer-Johnson website cites Mirenda and Locke (1989) who describe the process through which learners travel in their learning, "Visual representation of vocabulary progresses from actual objects to photographs to picture-symbols to traditional orthography".

The third component looks at the impact deeper, intentional instruction has on vocabulary learning. In early childhood classrooms, one intervention often discussed is the use of storybook reading. Exposing students to new words, as well as book language, through complex stories with beautiful

illustrations is beneficial. Literature suggests children are capable of learning new words through incidental exposure. (Wasik & Bond, 2001; Walsh & Blewitt, 2006) However, incidental exposure is not equally effective for all the children in a classroom. Coyne, McCoach, and Kapp (2007) state students are prone to learn word meanings "when teachers provide direct instruction compared to incidental exposure during read-alouds " (p. 75). Incidental vocabulary instruction is not enough to positively influence the vocabulary knowledge, and academic success of all students. Some will come into their classroom knowing 2000 fewer words than their peers. In order for students to score high on their achievement tests, teachers must provide adequate interventions. There needs to be more explicit, teacher-directed interventions for these children who are at-risk.

Summary

The purpose of this study was to explore how the use of picture-symbols, while reading thematic books, affects kindergartners' expressive vocabulary. The following chapters will provide a review of literature, as well as an overview of the research methodology. The data analysis will be explained, and the results of this study will be stated and interpreted. Last, implications and further research will be discussed.

CHAPTER II

REVIEW OF LITERATURE

Several studies have supported the idea that vocabulary has a strong link to a student's ability to become a successful reader. Its strongest link seems to be with comprehension. Boote (2006) found a report by Nagy and Scott that stated children must be able to understand 90 to 95% of the words in the text they are reading to fully understand the content. Without this understanding, students' ability to learn from or respond to the text will decrease.

With such importance on the development and strength of a child's vocabulary, this chapter will provide a review of literature on home literacy environment, the significance of extended vocabulary instruction, and classroom interventions. Little research has been found addressing the coupling of vocabulary learning with symbols. This rarity is a valid reason for the present research to take place.

Home Literacy Environments

Senechal, LeFevre, Thomas, and Daley (1998) conducted a study to determine what effects home literacy had on developing oral- and written-language. They studied two components of home literacy: reading storybooks and reading and writing instruction. The study found that "different kinds of home

literacy experiences were related to different kinds of skills" (Senechal et al., 1998 p. 109). Storybook reading was connected to oral language skills, while parent teaching was linked to written language skills. This study also concluded that long term reading achievement, through first grade, was influenced more so by oral and written language skill than by parent teaching. Overall the group concluded home literacy experiences should not be restricted to one type, because "storybook reading and parent teaching may be independent experiences, with different links to early skills and, ultimately, to reading acquisition" (Senechal et al., p.111).

Weigel, Martin, and Bennett (2006) conducted a study to compare the various components of the home literacy environment and preschooler's literacy and language development. Weigel et al. (2006) found preschoolers:

Exhibited greater print knowledge skills and stronger interest in reading and books when their parents read aloud to children, provided picture books in the home for children's use, visited the library with their children, and engaged in reciting rhymes, telling stories, drawing pictures and playing games with their children. (p. 371)

This was also found true when a follow-up assessment was completed one year later. Weigel et al. (2006) did not find a significant relationship between the child's oral development and the parent-child activities. They did find an association between the child's expressive and receptive language and the parental demographics; the "children's abilities to express their thoughts verbally and to understand verbal language tended to be higher when their parents had

higher levels of education, incomes, literacy skills, and positive school experiences" (Weigel et al., 2006, p. 373). The study illustrates that a child's early literacy skills are linked with home activities.

Some students may come into a classroom with limited exposure to language, early literacy and school readiness skills. According to G. Reid Lyon, the chief of reading research at the National Institutes of Health, "A 3-year-old child in an affluent family has a larger working vocabulary than the mother of a 3-year-old from a welfare family" (Nunberg, 2002). This could be due to a set of 10 environmental risk factors the children face, identified in a study by Sameroff (1998): 1. maternal mental health problems, 2. maternal anxiety, 3. maternal authoritarian childrearing attitudes, 4. poor mother-child interactions, 5. mother has less than a high school education, 6. head of the household has a semiskilled or an unskilled occupation, 7. minority ethnic status, 8. father absent, 9. several stressful life events in the previous year, and 10. large family size.

A home lacking a literate environment, one that encourages the development of reading, writing, and speaking skills, will put a child at a disadvantage. Justice, Meier, and Walpole (2005) note "striking gaps are evident when comparing the vocabulary skills of lower SES children to their middle and upper SES peers" (p. 18). They follow up by saying those who are left behind are often children from low SES backgrounds.

Socio-economic Status

Hart and Risley (1995) states the amount of talk between parents and their children is correlated with the parents' economic status. Studies have shown, the amount of parental verbal communication is strongly related to children's later vocabulary size. Students who come from a low socio-economic background are unlikely to have high academic achievement. Justice, Meier and Walpole (2005) say that based on studies by Scarborough, the "predictive relationship between preschool language and later reading is approximately .75" (p. 18).

Justice et al. (2005) caution that children most vulnerable to experiencing academic difficulty are those from low SES backgrounds. These children come to school with little oral language and less early literacy encounters as compared to their higher SES classmates. Murphy (2004) reports the National Reading Council states "poverty can be detrimental to reading" (p. 14). Stanton-Chapman, Chapman, Kaiser, and Hancock (2004) found studies that show poverty places children at increased risk for "deficits in cognitive development and achievement" (p. 227).

The students who attend my school are at great risk for poor academic achievement. Their home literacy could affect their learning and achievement. This is a concern that could be addressed if the vocabulary gap is lessened.

Extended Vocabulary Instruction

A study on the nature and frequency of vocabulary instruction and its effects was conducted by McKeown, Beck, Omanson, and Pople (1985). The

goal was to determine the role frequent encounters, rich instruction, and opportunities to use the words outside the classroom would have on the improvement of word knowledge skills. McKeown et al. (1985) studied what contribution the nature of vocabulary instruction and the frequency of the encounters had on the improvement of verbal procession skills. When discussing the nature of the instruction, there were two aspects. The first was rich instruction, which involved different techniques emphasizing discussions about words, their meanings and uses. The second was extended instruction, which included activities encouraging students to listen for and utilize the new vocabulary outside the classroom. The last classroom used a more traditional approach to teach vocabulary modeled after the basal reading series.

The second aspect of their study was the examination of the frequency of the encounters with new vocabulary. Based on a past study it was found that 10 to 18 encounters with a word provides sufficient improvement on a range of word knowledge skills as opposed to only four encounters – what the normal basal program offers. McKeown et al. (1985) investigated the results of a moderate versus high number of encounters.

For word knowledge, McKeown et al. (1985) found children receiving traditional, rich, and extended/rich instruction knew more high- and low-encounter words than did the children receiving no instruction. The study found students who received instruction knew more high-encounter, than low-encounter words, which supports that high frequency instruction results in more word knowledge. It was also found there were equal amounts of gain among the three

instruction types on high- and low-encounter words. Finally, children who received rich instruction were found to know more uninstructed words than those who received traditional instruction. Based on word knowledge skills, "all types of instruction were found to be better than no instruction, and the frequency, but not the type, of instruction affected the magnitude of the learning gains" (p. 530).

The fluency of lexical access assessments found children who received the extended/rich instruction had faster reaction times with the high- and low-encounter words, than the children who had traditional or rich instruction. In the rich and traditional groups, high-encounter words were responded to faster than the low-encounter words. The McKeown et al. (1985) context interpretation evaluations found that extended/rich and rich performed at the same levels, higher than the traditional group. They also found extended/rich and rich instructional interventions were better than traditional instruction at both high- and low-frequencies relative to gains in context interpretation.

The last assessment was the story comprehension, which asked the students to recall stories. These results showed extended/rich and rich instructional groups recalled more of the story with the high-encounter-words than the control group. McKeown et al. (1985) also suggested using the extended/rich intervention to enhance comprehension because "it brought comprehension of the story containing high-encounter words up to the level of that of the story containing only common words" (p. 532).

Beck and McKeown (2007) suggest utilizing a Rich Instruction technique, which explains word meanings in student-friendly language, provides multiple

examples in multiple contexts, and expects students to recognize appropriate and inappropriate word use. Buehl (2005) cautions teachers, stating the studies have shown that more than 60% of sentences created by students to use new words based on definitions were incorrect. In order to address the concerns, Beck and McKeown (2007) conducted two studies in low socio-economic schools. The first examined the extent to which students learned words when receiving instruction, versus receiving none. The second study focused on the children's ability to learn new words under different amounts of instruction.

The first study by Beck and McKeown (2007) utilizes Text Talk, a technique that encouraged the students to use new vocabulary words orally. The instruction occurred after the story had been read and discussed. This allowed for rich vocabulary activities to develop without interrupting the meaning of the story. First the word was contextualized, and then the meaning was explained. Afterwards, the children were asked to repeat the word and then the teacher gave examples of the vocabulary word in other contexts. The students were then asked to make judgments about the word, considering which examples given by the teachers were true of the new word. Then they were asked to give their own examples and repeated the word again. The comparison group read the same books but did not participate in the Text Talks.

Beck and McKeown (2007) extended the first study, suggesting the rich instruction helped, but the time spent teaching vocabulary may not have been adequate. Text Talk techniques were used in both groups, concentrating on six words a week, allowing all the students to participate in Rich Instruction. The

intervention group, however, received further instruction on three of the six, and was designated as the More Rich Instruction group. Time wise, the Rich Instruction group spent 6.6 minutes learning each word, whereas the More Rich Instruction group spent 27.6 minutes learning each word.

Beck and McKeown (2007) concluded that more instruction was beneficial, yielding gains almost twice as large in both kindergarten and first grade. They reason that knowing some harder words may enable them to learn more unfamiliar words and provide a foundation for faster vocabulary growth. Vocabulary instruction will not happen incidentally with as much effect as it does when deliberately and directly taught.

Several studies have indicated the importance of vocabulary. Children need a strong vocabulary in order to understand what they are reading. Buehl (2005) reports vocabulary researchers, Isabel Beck, Margaret McKeown, and Linda Kucan, believe personal connections and useful associations construct word knowledge. To have a complete understanding, they must learn a word's multiple meanings and practice using it in a variety of contexts as they integrate the word into their current knowledge.

Students are not always coming into school with strong prereading skills, one of which is vocabulary. Educators need to be ready to accommodate their needs. Several interventions have been studied, ranging from read-alouds to questioning, and from props to thematic sociodramatic play. The following section will discuss the research surrounding these interventions.

Classroom Interventions

Although vocabulary has been found to be critical in order for children to become successful readers, only about 6% of instructional time is spent on this skill (Buehl, 2006). The majority of books primary children read independently are not good sources for vocabulary development because they do not include rich language, as they are usually restricted to words children know aurally. Read-alouds by the teachers then become the primary source for new vocabulary because it has been found that children's listening ability is higher than their reading. However, Beck and McKeown (2007) state studies have revealed the link between read-alouds and learning vocabulary is not as simple as expected. They warn that repeated readings are boring, as the children have to listen to the same story three or more times in order to get a positive effect on the vocabulary knowledge. There are other downfalls to current vocabulary strategies as well, including deciding which vocabulary words to teach and the extent to which they are learned, understood, and able to be used in other situations.

Wasik (2006) explains as children spend more time at school, teachers can influence their vocabulary development by providing experiences to expose children to new words and help them learn and use them. She attests to the belief that vocabulary development is one of the most important areas of a child's language development and affirms it is closely linked to children's success in school, particularly in reading. Often research studies revolve around book reading and read-alouds to offer exposure to new words, but this experience

alone is not enough. Frequent use of those words, outside of book readings, will enhance the student's ownership of the new word. One way to help is by offering concrete objects with which they can interact.

Wasik and Bond (2001) conducted a study to find out the best way to have classroom shared reading share similar attributes of reading one-on-one at home. They looked at optimizing the student's learning of vocabulary through repeated exposure. Secondly, they provided concrete representations of the words as well as planning for children to encounter similar words in different books. Lastly, they worked with the classroom teachers on forms of open-ended questioning which would lead to discussion. The control group did not receive the interactive book reading training, or the box of theme related props.

Through the assessments Wasik and Bond (2001) found the intervention group scored higher on all measures than the control group did. As expected, repeated exposure through books and other opportunities, along with the story props significantly increased the amount of vocabulary learned during the 15 weeks. Each of these techniques allowed the children meaningful opportunities to use the vocabulary words in context, and provided the motivation to do so. The intervention teachers were also observed to use the words more often when teaching. Instead of referring to the vocabulary terms as pronouns or pointing to it, they were more apt to use the correct label for the object. This study suggests in a Title 1 preschool, it is possible to implement an effective intervention to increase students' vocabulary.

Walsh and Blewitt (2006) encourage a technique similar to that used in Wasik and Bond's study, however, it does not go as in-depth. It supports the idea of questioning students during a storybook reading. Conducting a study with 35 3-year-olds in middle- and upper-class childcare centers in Philadelphia, they looked at the effects of three types of questioning on vocabulary acquisition. The participants were randomly assigned reading groups, one which asked eliciting questions, requiring them to answer using a target vocabulary word; one group would be asked noneliciting questions, questions that included the target word; and the last group was not asked questions during the read aloud. This study found that the types of questions asked did not have influence over the vocabulary development of the participants. This study supported the trend that questioning students during the reading resulted in more vocabulary learning than just reading straight through (Walsh & Blewitt, 2006). This is important to remember because just reading a story is not enough to influence a child's vocabulary. They must be exposed to the words repeatedly and experience some meaning in their learning. Most importantly, the children need to have the opportunity to interact with the words they will need to retain in order to become successful readers.

Sociodramatic Play

These techniques of teachers talking and explaining new words to their students cannot be the only effective way for children to learn language. As Jean Piaget and Lev Vygotsky suggested, and the International Reading Association (IRA) supports, children learn language by using it purposefully. Children make

language have meaning by constantly revising their understandings every time they are exposed to the words again. The IRA Standards for the English Language Arts (1996) states, "We learn language not simply for the sake of learning language; we learn it to make sense of the world around us and to communicate our understandings with others" (p. 14). Play, a technique discussed in the following section, encompasses all of these beliefs.

Literature supporting the use of play, and its importance in the development of a child's academic skills are infrequent but resolute. Rogers and Evans (2007) report that research shows evidence that children aged 3-5, in particular, are receptive to peer group play which build skills that lay a firm foundation for lifelong learning. Researchers have found important academic links between play and literacy skills. Hatcher and Petty (2004) explain the benefits of dramatic play which include stimulating language by introducing new words, developing linguistic awareness, expanding content and concept knowledge, and establishing connections between concrete and abstract. Bodrova and Leong (2003) link play with memory, self-regulation, oral language, and recognizing symbols.

Xu (2003) and Levy, Wolfgang, and Koorland (1992) found research supporting that literacy based play enhances literacy, with minority and impoverished children benefiting the most. *Sociodramatic play* is defined as play that involves voluntary social role-taking with others (Levy, et al., 1992, p. 246). Levy et al. (1992) went on to consider that if literacy based play supported the learning of disadvantaged children, then *enriched sociodramatic play* would also

enhance the learning of typical students. A study was conducted to determine if those students who engaged in enriched sociodramatic play would 1. use more total words in conversation, 2. increase the mean length of T-unit (measure of thought unit length and grammatical development, calculated by dividing number of words by number of independent clauses), 3. use more vocabulary words specific to a defined theme or play, and 4. use an increased number of words indicating concepts of color, shape, number, quantity, space, and time.

In order to analyze the data, 15 minutes samples of the three children's language during impromptu and enriched play was audiotaped. The data collected indicated an increase in frequencies for each child on each language measure from their introduction in the enriched playgroup until the end of the study. This study supports "the conclusion that a functional relationship exists between enriched sociodramatic play and increase language performance" by kindergartners (Levy, et al., 1992, p. 256). The study, Levy, et al. (1992) also suggested that sociodramatic play provided practice and mastery of the themed vocabulary and information the subjects were introduced to in the classroom.

This idea supports Piaget's theory that play is assimilation. Theory suggests that language is learned through social interactions, and Erikson (1963) and Piaget (1962) found that in primary classrooms it would most likely occur in sociodramatic play (Levy et al., 1992, p. 246). Sociodramatic play is play that involves spontaneous social role-playing with their peers (p. 246). Theorists as far back as Jean Piaget and Lev Vygotsky recognized the importance of play as

a vehicle for cognition. Vygotsky believed that social interaction was a key component of cognitive development. In his book *Mind in Society* he stated:

Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (interpsychological) and then inside the child (intrapsychological). This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher functions originate as actual relationships between individuals. (1978, p. 57)

Vygotsky also theorized (1962) that the conceptual and language abilities of children are expanded through play as children rehearse or practice the skills they will later use. Piaget believed that a child had to be actively involved in their learning, and that cognitive development could be facilitated through the children's exposure to experiences allowing them to assimilate or adapt the new information into their existing schemas. Both of their ideas can be encompassed by sociodramatic play.

Studies support the use of play as an effective method of increasing students' vocabulary. This is a method that any teacher could readily incorporate into her classroom. It will be convenient to provide the children with shared background knowledge through read-alouds and other classroom activities. Props can include items from home or the classroom and the adult facilitator could be the teacher. These three components would fulfill the requirements of enriched sociodramatic play. It is not happenstance that the children interact

with the props and each other, but carefully planned, thematic play areas will develop and increase their language skills.

Roskos (2000) continue the discussion of play and its positive effect on language and literacy skills in early childhood. Children naturally incorporate literacy into their play reports Roskos (2000). They also state that the physical environment influences the amount of literacy. The children are more likely to involve themselves with more reading and writing activities when props and literacy tools are offered than if they are unavailable. The literacy-based effects of play are also seen by the use of language. Language is the energy of the literacy-play link (Roskos, 2000). This mental process carries the connection between the literacy and the play – children are using language to communicate their own ideas and in so are practicing base skills of literacy, including telling, narrating, and describing. The deep, involved play requires them to use sophisticated language.

Green, Peterson, and Lewis (2006) surveyed 180 educators at an early childhood regional training session. The survey included 23 items that were scored on a five-point Likert Scale, however when the results were analyzed, the categories shifted into only three points. They found that the sample of educators surveyed was making a purposeful effort to engage their students in a variety of important language activities. The majority of them responded that they read to their children frequently, and two-thirds set aside special time to do so.

The Green, Peterson, and Lewis (2006) survey also revealed that the educators offered frequent opportunities for children to interact with books and other types of printed materials. Alphabetic principle was an area where the educators ranked high, 90% of them reported spending time teaching the letters, and even more reported singing the ABC song. While these results were positive, they also found that only 8% of the educators asked their students questions about the books during or after reading them. Twenty percent of the educators reported not reading to their students frequently, and even more did not spend time reading with students one-on-one.

From the surveys variables were tested to determine what influenced an educator to promote language activities and three were found to significantly control the literacy in the centers: availability of children's books, perceived adequacy of basic literacy training, and the number of students taken care of by the educator. This research concluded that in order for a classroom to provide language development educators need access to high quality children's literature and the educators should receive in-depth training on the newest research-based information on how to teach literacy skills. (Green et al., 2006)

This next study takes the challenge one step forward, not only looking at promoting language, but also enhancing it in your classroom. Kirkland and Patterson (2005) described the many avenues one can take to implicitly and explicitly develop oral language in primary classrooms. The classroom environment can provide opportunities for children to enhance their functional language. Teachers can use sign-in sheets and let the children to make their

lunch choices, utilizing the words with corresponding pictures. Co-authored charts and artwork with self-selected titles allow the children to see and hear themselves participating in language practices. They also suggest an area of the room designed for retellings and other book related activities, including puppets, flannelboard stories, and a listening center, which allows the children to reenact the story through meaningful activities.

Literature is another area of teaching that can provide rich language experiences suggest Kirkland and Patterson (2005). Teachers need to carefully choose quality literature and remember to include stories with rhymes. Wordless stories are another way to invite students to use and expand their language as they tell the story for themselves. The time for read-alouds should not be squeezed into the day, but planned for systematic and explicit language development. Developmentally appropriate oral language activities should also be built into the daily routine of the classroom. Show and Tell allows children to describe what items they have brought in to share with the class. Shared reading and guided reading can also facilitate language development if it is planned carefully. Both of these activities can begin with vocabulary introduction and lead to a greater understanding of the text and the opportunity for the children to create webs and Venn diagrams.

The last suggestion Kirkland and Patterson (2005) have is to plan the curriculum in themes. This allows for the children to incorporate the language across content areas. "It is through the planned, thoughtful orchestration of

these resources that children build language quite naturally" (Kirkland & Patterson, 2005, p. 395).

Isbell, Sobal, Lindauer, and Lowrance (2004) studied how stories and storytelling are resources for language development. Storybook reading is a widely studied form of intervention for vocabulary development. It provides children with language skills, listening and speaking skills, and literacy skills, such as concepts of print, comprehension, letter recognition, and reading interest. Storytelling is not nearly as widespread in research, but offers students the opportunity to participate in the story, not just as listeners, but as tellers as well. They are invited to join in spontaneously and also during repetitive phrases and refrains. Previous studies have found the positive effects of storytelling across all areas of language and literacy skills including fluency, vocabulary acquisition, written language development, and even concentration. The story telling group provided a formal ending, the setting, named the moral and remembered all of the characters. Since storybook reading is already an integral part of most early childhood classrooms, the study supports adding a storytelling component. "Storytelling and story reading are both beneficial to the development of oral language complexity and story comprehension" (Isbell, et al., 2004, p. 162).

Summary

As teachers welcome students from varying backgrounds into their classrooms, they must be prepared to educate them based on their needs. Some will come in with little to no vocabulary and will need this basic background

in order to learn to communicate. Educators need to be equipped with multiple, and effective, interventions for their students. Students are not consistently entering school with strong prereading skills, one of which is vocabulary. Educators need to be ready to accommodate these diverse needs. Several interventions have been studied, ranging from read-alouds to storytelling, and from props to thematic sociodramatic play (Beck & McKeown, 2007; Isbell, Sobal, Lindauer, & Lowrance, 2004; Wasik & Bond, 2001; Brodrova & Leong, 2003). The current study will address an easily accessible intervention that has the potential to increase students' vocabulary knowledge.

CHAPTER III

METHODOLOGY

My research study explored an intervention to teach thematic vocabulary words to kindergartners by showing picture-symbols while reading books.

Interested in the effectiveness of this intervention on kindergartners' expressive vocabulary, I asked the following research questions:

- a. What effect does low socio-economic status have on students' home literacy environment?
- b. Will BoardMaker pictures increase the kindergartners' use of thematic vocabulary in an oral discussion?
- c. Does the extended instruction result in greater word learning than the incidental exposure in kindergarten?

The following study was conducted and the methodologies were performed in order to examine the purpose of the study and these questions.

Research Design

Quantitative research will be used to address the questions in this study. According to Leedy and Ormrod (2005), "Quantitative research is used to answer questions about relationships among measured variables with the purpose of explaining, prediction, and controlling phenomena" (p.94). This study was

experimental, looking at the difference between two groups, and led to correlational. I examined what happened when one variable increased or decreased, if another variable will react in a predictable fashion (Leddy & Ormrod, 2005). I chose quantitative research because I wanted to see a numerical increase in the students' vocabulary knowledge. I wanted to find a causal relationship between the intervention and the vocabulary knowledge so that I can make a generalization about BoardMaker's effectiveness. In order to do so, I chose two variables on which I collected specific data. This project tested my theory that extended instruction, through the use of symbols, will increase kindergartner's vocabulary knowledge.

Participants

The primary participants for this study were 5- and 6-year olds enrolled in the Extended Day Kindergarten program. The parents of these students were asked to sign a consent form, allowing their child to participate in this study. After the forms were returned, I included all of the students who agreed to participate in the study. There were two classes that participated, the morning kindergarten and afternoon kindergarten, both with the same teacher.

The morning kindergarten class attended school Monday through Friday from 8:40-12:07. There were 24 children in this class, 62.5% are boys and 37.5% are girls. Seventy-one percent of the children were Caucasian, 25% were African-American and 4% were of mixed races. Seventy-five percent of the kindergartners qualified for free/reduced breakfast and lunch, and 25% did not qualify.

The afternoon kindergarten class attended school Monday, Tuesday, Wednesday, and Friday from 12:07-3:10; on Thursdays they were in school from 12:07-1:35. There were 16 students in this class, 63% were girls and 37% were boys. Sixty-three percent of the class was Caucasian, 19% were African-American, 6% were of mixed races, and 12% were from other ethnicities. Sixty-three percent qualified for free/reduced breakfast and lunch, and 37% did not qualify.

Because I teach two classes, a morning and an afternoon, I was able to create a control group and a treatment group. I selected the morning class as my treatment group, the participants who would receive the intervention, for two reasons. First of all, as their teacher, I believed there were more students in this group would need to strengthen their vocabulary. Secondly, due to our school's schedule, they attended school for almost a full day more than the afternoon class did. I was unable to reverse the study for the afternoon class, introducing them to the intervention as well, because the school year ended. Therefore, in this study the morning class served as my treatment group, and the afternoon class was the control group.

Setting

My school is located in the Midwest, just outside of an urban area. It consists of grades 1-5, as well as an extended day kindergarten program. This year approximately 175 students attended our school, as well as 40 extended day kindergarten students. We have grant monies that support the extended day

program, as well as, a before- and after-school care program, after-school tutoring, 7-week summer school, and free breakfast.

The extended day kindergarten classroom is comprised of children who live in the geographic neighborhood of the elementary school. It is a free program and families must enroll their children in order for them to attend. The classroom has one full-time certified early childhood teacher and one full-time aide. Each class leaves the classroom for 30 minutes a day to attend various specials classes.

The area where the interviews were conducted changed often. It was most convenient to interview the students outside the classroom in the hallway, however specials or noise required the place of the interview to change. Some interviews were conducted in the library, when the students were next door in computer class; others were conducted in empty classrooms. The most favorable setting was a small office used for one-to-one tutoring.

Data Collection

The types of data collected were in the form of interviews and surveys, with the students being the primary informants. The data collection also consisted of a pre-test and post-test for each unit of study. I kept a field journal throughout the study as well.

Surveys

The parental surveys (see Appendix A) served as insight into the lives of the participants in this study. However, studies have shown that such surveys are not indicative of the child's literary ability (Senechal, LeFevre, Thomas, &

Daley, 1998). These surveys have been criticized as not being true indicators of parental reading support because they are self-reports (Senechal, et al., 1998). Leedy and Ormrod (2005) also remind us to consider that in self-reporting, people often tell us what they think we want to hear. So along with the parental survey, I also included a Children's Title Checklist (CTC) (see Appendix B) for the parents. This list was interpreted as an indication of the parents' exposure to children's literature, most likely from reading to their children (Senechal et al., 1998). I based the CTC for this study on that found in the Senechal et al. study from 1998, but decreased the number of items on the list. I edited the list, removing *Polar Express*, as Senechal et al. (1998) determined their list based on the criteria that no movies had been made based on the book.

Questionnaire

The kindergarten participants also took part in a questionnaire of home literacy (see Appendix C). They were asked about their learning that takes place at home, in forms of homework, being read to, taken to the library and other literacy activities. Their answers again provided insight into their home environment. Students may be less likely to answer questions considered "correctly" and are more likely to give an honest picture of what is happening at home.

Free/Reduced lunch forms

Documents illustrating the socioeconomic status of the kindergarten participants will also show risk. "Children exposed to multiple risk factors are at an increase risk for developing a disability" (Stanton-Chapman, Chapman,

Kaiser, & Hancock, 2004, p. 227). When compared to the general population, low-income children were "exposed to a greater number of risk factors, faced these risk factors in the context of poverty, and tended to have lower language scores regardless of the number of risk factors" (Stanton-Chapman et al., 2004, p. 234). The Ohio State Report Card reports 64% of the Parker Elementary's population is economically disadvantaged, however the kindergartners are not included in those figures. Such figures are needed to assess the extent of poverty in the sample group. Therefore, I examined the free and reduced lunch forms turned in by the student's parents with the application for the program. Information revealed through these forms, such as an income level, will indicate the SES of the students.

Thematic Scenes

The two units of study I focused on in this study was a Zoo unit and an Ocean Unit. These scenes would serve as the basis for the discussions with the students, offering an opportunity to see the illustrated representations of the words we had been learning. The Zoo scene (Appendix D) and the Ocean scene (Appendix E) would enable the children to discuss what they saw happening, with the intent they would use the targeted vocabulary words.

I choose not to use BoardMaker pictures in the discussion scenes because I wanted to see if the students were able to transition from the symbols to other illustrations. Since I could not make the scene using BoardMaker, but had to find one that was created. It was difficult to find resources that included all of the thematic vocabulary, as well as meet my standards for authenticity.

Several attempts to create a scene, from hand-drawn to computer clipart, fell short of my expectations.

I then found Create-A-Scene Play Sets by Smethport. It is a magnetic board with an illustrated background, as well as magnetic pictures to place on the board. This allowed me to create a life-like scene, as well as assess the vocabulary the participants had encountered for that unit. I used the Magnetic Zoo and the Magnetic Ocean scenes.

Discussion/Interviews

The oral discussion is a chance to quantify the amount of vocabulary learned in the thematic units. The Zoo scene incorporated all of the thematic vocabulary words the students would have been exposed to in that month. The Ocean scene provided the participants an opportunity to utilize the vocabulary words they had learned that month as they discussed what was happening.

Both discussions were audio-taped and transcribed. This allowed me to record the amount of words the student used. This assessed the student's expressive vocabulary knowledge, which is the type of vocabulary needed to respond to reading. In a study by Scarborough (1998) expressive vocabulary in kindergarten was the second strongest predictor of later reading.

Because of time restraints, I was unable to conduct all of the interviews in the small office at the other end of the building. I was often interrupted while interviewing in the hallway. In some recordings, I cannot hear what the students are saying because of the music class going on in our classroom. A number of my students also have articulation difficulty, and it was hard to understand what

they are saying, even when it is audible. All of the interviews were transcribed and used to inform my data analysis.

Lesson Plans

Lesson plans allowed the amount of instruction to be quantified. It showed the extended instruction received by the experimental group, as well as the typical instruction received by the control group. The purpose of looking at the lesson plans was to see how the teacher was able to extend the amount of vocabulary instruction the students receive. It was then compared to that of the control group. Not only did the lesson plans allow for time comparison, but the amount of days that were available to teach the vocabulary words was also examined. Often days were interrupted with special events that affected only the morning class, or vice versa, and I wanted to ensure that was taken into account in this study.

The treatment group's lesson plan was simple; a convenient addition to a classroom teacher's read aloud. I would introduce the book to my students, and then tell them the vocabulary words we would focus on in that reading. I would show them the BoardMaker symbol, which would often lead to discussion and predictions about the word, and then I would read the story to them. While I was reading the story, I would hold up the symbol when I read about that word. After we had read the book, I would hang their symbol on the vocabulary, or picture, word wall.

As for the control group, their lesson followed the same format, without the picture symbol. I would announce the vocabulary word the book would focus on,

then I would read the story. The vocabulary word wall was covered by a curtain each day before they arrived so they did not see the picture-symbols.

All participants' were exposed to the picture-symbols during a 30-minute Language Lesson taught by the school's speech-language pathologist each week. She incorporated the thematic vocabulary through listening lessons and categorizing activities. This was something that had already been happening in our classroom, so we continued this vocabulary instruction during the research. Therefore, each of the groups did receive some exposure to the picture-symbols, though the experimental group received more exposure through the daily lesson plans which included the symbols. The control group only saw them once a week during the session with the speech-language pathologist.

Field Journal

Throughout the study, I also kept detailed notes about the events of each day. In the journal I was able to record conversations the participants had with me, as well as each other. I noted comments I overheard throughout the day pertaining to the vocabulary themes, as well as their interactions with the picture-symbols and the thematic scene.

Coding

When coding each thematic vocabulary word in the transcriptions, I selected three different codes. The first was for a Correctly (C) used thematic vocabulary words. For example, calling a panda bear, a panda bear in the zoo scene. I did not count the word as correct if they used a partial term, turtle for sea turtle, because a turtle and a sea turtle have distinct characteristics and if

they used the word incorrectly, it could cause confusion to the person with whom they were speaking. I did, however, accept the word whale, instead of orca whale, which was the thematic vocabulary word, or killer whale because if a student used the word in a sentence, the meaning would not change.

Some of my students had a small stuttering problem when speaking. When stuttering or repetition of the same word, without a different contextual meaning, happened, I only counted the word once. For example, student six was recorded saying, "...and, and if the *crab*, if the *crab* sees her, if the *crab* sees her then she's gonna go...". Although the student uttered the word correctly three times, it was only counted at one correct utterance because there was no difference in the context. Similarly, student eighteen stated, "And the *shark*, and the *shark*, try to stop the *swordfish*. And this *shark* try to, try stop *swordfish*." Shark was stated three times, but only counted as a correct use of the thematic vocabulary word once, because nothing new was said about the shark. The same is true for the swordfish, no new information was given, so it was only counted as one correct word.

On the other hand, if a student used a word twice, with different meaning, or stating different characteristics, it was counted multiple times. In student one's discussion, they said, "And then there's a baby *panda bear*. And then there's a mommy *panda bear*." Both words were counted because they used it to describe different aspects of the animal. Other students also referred to the animals twice when there was an adult and a baby animal present in the scene. Student ten exhibited another example of counting a word twice in the afternoon class. He

stated, "And the *elephant* is lookin' at, um, the *gorilla* because I, maybe the *elephant's* gonna break out and hurt the *gorilla*." This was not a repetition of words, but an example of using the vocabulary words twice in a meaningful way.

Words were coded Incorrect (I) if they were thematic words used in reference to the wrong animal. The students' remarks that were incorrect and not thematic words were not coded in this study. For example, calling a *sea gull* a goose was not coded because goose was not a targeted word. An incorrect use of vocabulary words would be calling a *hammerhead shark* a *stingray*. They were also coded Incorrect if a partial word was used, as stated above. Hammershark was coded incorrect because she did not include the word head, *hammerhead shark*.

The vocabulary words that were made-up or relatively close words were tallied. Student eight in the afternoon class referred to a swordfish as a "knifefish". Another close replication of a word was by student six in the afternoon class, calling a cheetah, a "cheeto". They did not call it the wrong word, a lion or a tiger for cheetah, which would have been coded Incorrect, but instead chose a word that had a similar sound or described the animal.

Connections made from the books read in class, from the other thematic unit, as well as other classroom learning were also recorded. It was coded Making Connections (MC). In the Zoo post-test, student seven from the morning class referred to the book *Animal Strike At the Zoo It's True* when they said, "Um, and the zebra it, it, um, in the book they, they painted themselves into a horse." Several students used adjectives from the zoo unit to describe the animals in the

scene for the ocean unit. Student thirteen in the morning class saw a shark, a zebra shark. When asked why a zebra shark, he replied, "'Cause it has *stripes* like a *zebra*." Another student mentioned learning about rainbow fish and seaweed in art class at her other school. In the transcriptions a connection made from the speech-language lesson from the week was also recalled as a student described how a kangaroo and rabbit were both alike because they hopped.

Through the evaluation of the transcriptions, the amount of media references was surprising. This led me to code the number of times students referred to media while discussing the thematic scene. Often times when children saw something familiar they would refer to a video game, movie, or television show. Such examples included Spongebob, Nemo, and Simba. One student explained the pirate ship in the water, "Like Jones tipped under the water... Captain Jack Sparrow, Davey Jones, he came down with the ship. Go under the ocean."

The last code was used to account for the times the morning participants referred to the Word Wall (WW) to learn information, or as an aide to remember information. Student fourteen in the morning class was unable to remember a word in the Ocean post-test interview when I asked him to use the noun instead of a pronoun. He responded, "I don't know. Can I go look in there?" referring to the classroom. I answered yes, and he went in, looked at the word wall, and came back out and announced, "Pearl."

The codes were used in both the transcriptions, as well as the field journal. Most of the field journal codes were for the word wall and making connections. These will be discussed in Chapter V.

Analysis of Data

The results from each type of data were given a numeric score. This enabled me to chart the data quantitatively. The interview transcriptions were coded for use of correct vocabulary, incorrect vocabulary, and made-up vocabulary. Each participant received a point for each word used correctly, and their pre- and post-test results were compared to those in the other group.

The questionnaire, both parental and kindergartner, answers were given a numeric score based on what would be the preferred answer. The more beneficial to a child, the higher the score it was given. There was a one-point interval between the value of each answer.

The field journal was evaluated for qualitative purposes, noting and coding any categories that appeared throughout the research. The spontaneous use of thematic vocabulary words, as well as use in conversations with friends, and in answering prompts given in class were noted in the field journal. This journal was also used to record the lesson plans for each class during the research study.

Analysis of Qualitative Data

According to Leedy and Ormrod (2005) qualitative data enables researchers to identify the multiple layers and facets in their study. Aside from the statistical analysis gained from my interviews and surveys, I also read

through the interviews and observational notes and coded each item. I then read back through these items to find themes prevalent throughout the two thematic units in both classes. The categories that emerged were Word Wall as a Resource, Self-Initiated Vocalization, and Participation in Read-alouds.

Using both types of research enabled me to provide a richer description of this study and its effect on the kindergartners. "We learn more about the world when we have both quantitative and qualitative methodologies at our disposal" (Leedy & Ormrod, 2005, p. 95).

Role of the Researcher

In this research project, I served as both the researcher and the teacher. Upon reflection, my role was biased. I knew what I hoped to find, I knew the goal, and human subjection most likely affected the research. It was also more likely for me to be more casual in my deployment of the treatment because I was in charge. Had another researcher requested my help and required my actions to be precise, I would have been more meticulous.

However, because of my relationship with the participants, I think there was more discussion from their interviews as well as more information from their interactions with me in the classroom. I was also very close to the subjects and able to have meaningful exchanges with the students, as well as overhear them while talking to each other. Being in the classroom all day long enabled me to hear comments and conversations that I would not have overheard had I not been there. There were also small stories students shared with me, such as showing me a zoo notebook they purchased, or bringing in a crab claw or a

stuffed panda bear, that I might not have been able to see and experience had I not been both the teacher and the researcher.

Many of my students also have articulation difficulties. Being both the researcher and the teacher during this part proved to be a benefit as I was able to decipher each student's substitution patterns and had a much better chance of understanding, or figuring out, what they were saying.

This combination also helped me choose a topic of investigation I knew to be critical to my students and meaningful research for our classroom and school's situation. My double role also enabled me to discuss the study with parents, as well as thank them for their support because of my constant communication with them. Overall, it was helpful to be both the teacher and the researcher in this study.

Summary

This chapter explained the methodology used to complete this study, including a description of the study and its participants, the setting, data collection, and data analysis. The statistics and themes that emerged from this study will be presented in Chapter IV.

CHAPTER IV

RESULTS

Based on the research methodology in the last chapter, I collected data from both the treatment group, the morning class, and the control group, the afternoon class, through multiple sources. I used these data to code my results and analyze my evidence. In this chapter I will review the results of my study and provide evidence for the results I will be describing. Quantitative, as well as qualitative, research will be reviewed in answering the research questions in this study.

Home Literacy Environment

My first research question focused on the idea of how socio-economic status affects a child's home literacy environment. To address this goal I looked at two components, the Parental Home Survey and the family's free/reduced lunch acceptance. There was no statistical significance between the two. Whether or not the child's family was living below the poverty line, did not seem to have an effect on the amount of literacy at their home. Table 1 shows the correlation between the two variables was +0.24.

However, the lunch status did have a significant statistical correlation to the student's score on the post-test of the ocean scene. If the participants were

receiving free/reduced lunch, they were less likely to know more words on the Ocean scene post-test. Conversely, if they were paying full price for their lunch, they were more likely to know words on the Ocean scene post-test. The correlation between the lunch status and the ocean post-test was +0.36 (Table 1). It is a moderately strong correlation.

The correlation matrix also shows another positive correlation with strong significance. The relationship between the zoo post-test and the ocean post-test was not surprising. The relationship between the two is a strong, positive correlation of +0.63 (Table 1). The more thematic vocabulary words the students knew on the zoo post-test, the more words they knew on the ocean post-test. As well as those students who knew fewer words on the zoo post-test, were also likely to know fewer words on the ocean post-test.

	CTC Score	Home Literacy Survey	Zoo Post	Ocean Post	SS Total	Zoo Difference	Ocean Difference	Lunch
CTC Score	1							
HML Home Literacy	0.33	1.00						
Zoo Post	-0.03	-0.21	1.00					
Ocean Post	0.13	-0.21	0.63	1.00				
SS Total	0.37	0.17	-0.12	0.05	1.00			
Zoo Difference	-0.06	0.12	0.47	0.09	0.00	1.00		
Ocean Difference	0.16	0.01	0.28	0.59	0.27	0.27	1.00	
Lunch	0.18	0.24	0.30	0.36	0.16	0.08	0.31	1.00

Table 1

Surprisingly, only moderate correlation was found between the CTC and the Parental Home Literacy survey. These were both used in attempt to gain a truer picture of the child's exposure to literacy skills. However, the correlation was +0.33, not as strong as the tests were meant to be. Both surveys were

meant to complement each other's answers, but the moderate correlation does not support that idea. The Student Survey and the Parental Surveys also lack significant correlation, at only +0.17. Both surveys measured the same literacy items, but were answered by different people in the home.

My research showed that both classes had similar home environments. The CTC and Home Literacy Survey descriptive statistics, shown in Table 2, illustrate the likeness between both classes. On the CTC score, the mean was 9.8, while the median and the mode were both 10. The minimum score was 7 below the median, and the maximum score was 8 above. This test has an average bell curve. The Home Literacy score showed similar results.

<i>CTC Score</i>		<i>HML Home Literacy</i>	
Mean	9.888888889	Mean	2.321428571
Standard Error	0.813583633	Standard Error	0.089878981
Median	10	Median	2
Mode	10	Mode	2
Standard Deviation	4.227504568	Standard Deviation	0.475594866
Sample Variance	17.87179487	Sample Variance	0.226190476
Kurtosis	-0.652856575	Kurtosis	-1.455546559
Skewness	0.192386357	Skewness	0.80870382
Range	15	Range	1
Minimum	3	Minimum	2
Maximum	18	Maximum	3
Sum	267	Sum	65
Count	27	Count	28

Table 2

Surveys

Looking closely at individual items on the Parents' Survey, some data were analyzed separately because although the total scores showed little difference, some test questions had noticeably dissimilar scores. Overall, parents in the afternoon class, specifically parents of students twenty-three

through thirty-three, were more likely to read to their children at times other than bedtime. Another interesting difference was the amount of times children asked their parents to read to them weekly. The afternoon students were also more likely to ask their families to read to them, as shown in Figure 1.

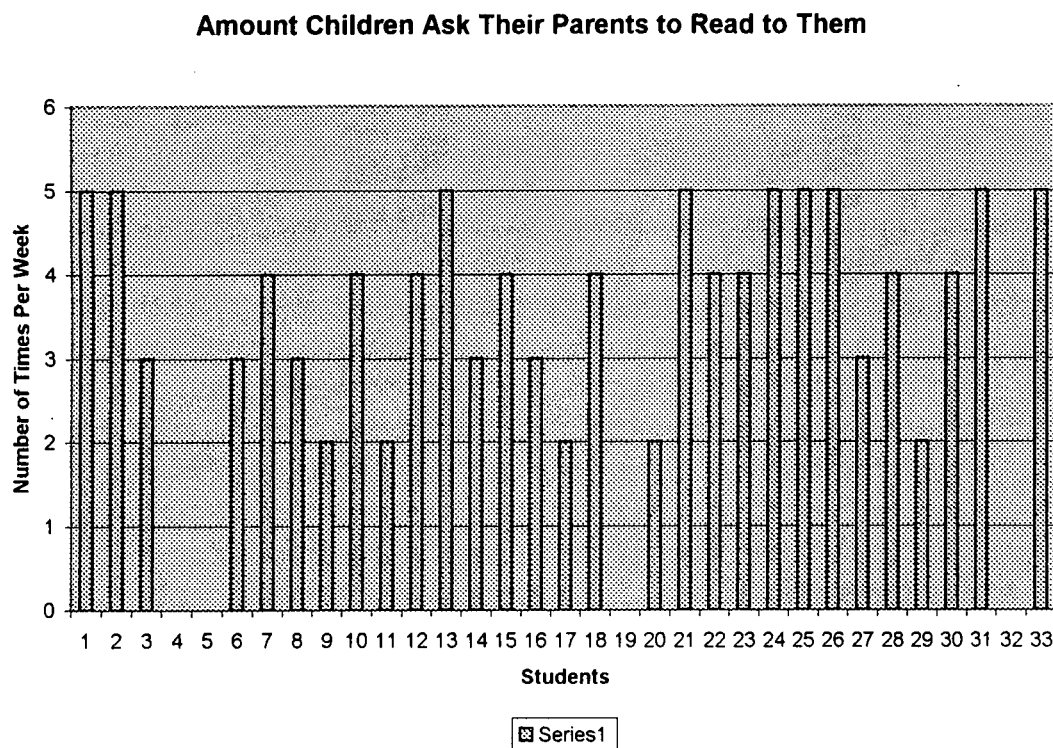


Figure 1

A study of other statistical tests did not show any significance.

BoardMaker Picture-Symbols

My second research question addressed the effect of using BoardMaker picture-symbols on the amount of thematic vocabulary a student would use in an oral discussion. There was not statistical evidence that supported the intervention led to an increase in their vocabulary. However the use of the symbols did enhance their interactions with the words and symbols.

According to Figure 2, a graph that shows the average number of words each class knew at the start of each unit, the morning class knew more Zoo and Ocean vocabulary words. This illustrates that the morning class, the group receiving the intervention, had more prior knowledge of the thematic units before the study began. This graph also shows, overall, there is less prior knowledge about vocabulary regarding the ocean than the zoo.

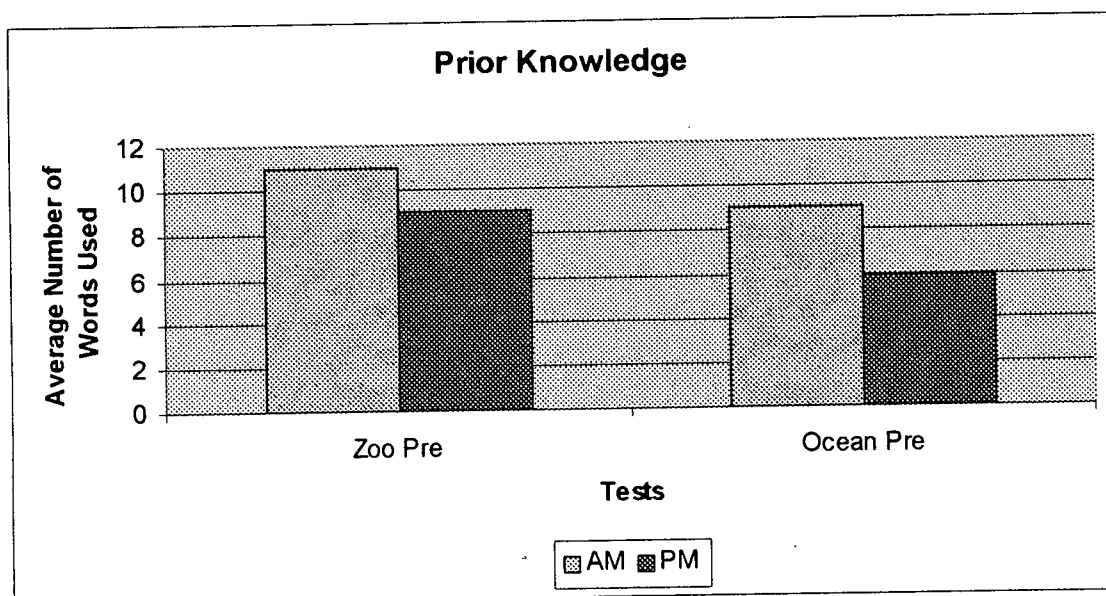


Figure 2

Conversely, Figure 3 shows a graph of the number of words the students knew at the completion of each unit. Students one through twenty-two are those who received the picture-symbol intervention; twenty-three through thirty-three received no additional instruction. There appears to be no notable differences between the number of words the treatment group learned, compared to the number of words the group without additional support learned.

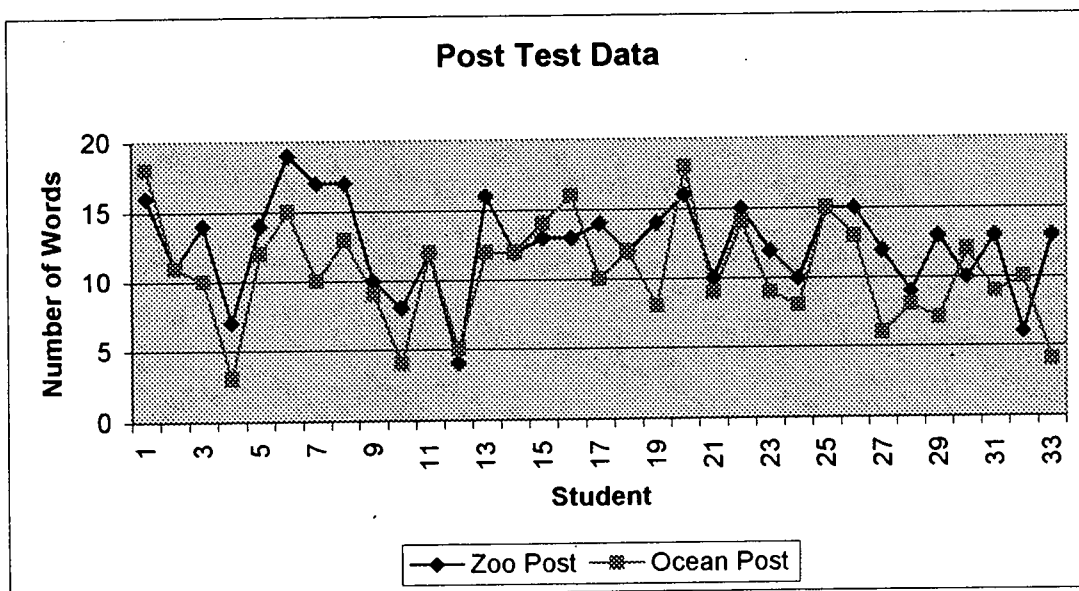


Figure 3

According to Figure 4, there were two students, one in each class, who made notable gains. Student 7 in the morning class, who received the intervention, used seven thematic words in the zoo pre-test, and seventeen were recorded in the post-test. However, on the ocean scene her score increased by three.

Student twenty-six in the afternoon class, who did not receive intervention, increased her zoo score by fourteen words through incidental exposure. She also made notable gains on the ocean post-test utilizing eleven new words from the thematic vocabulary.

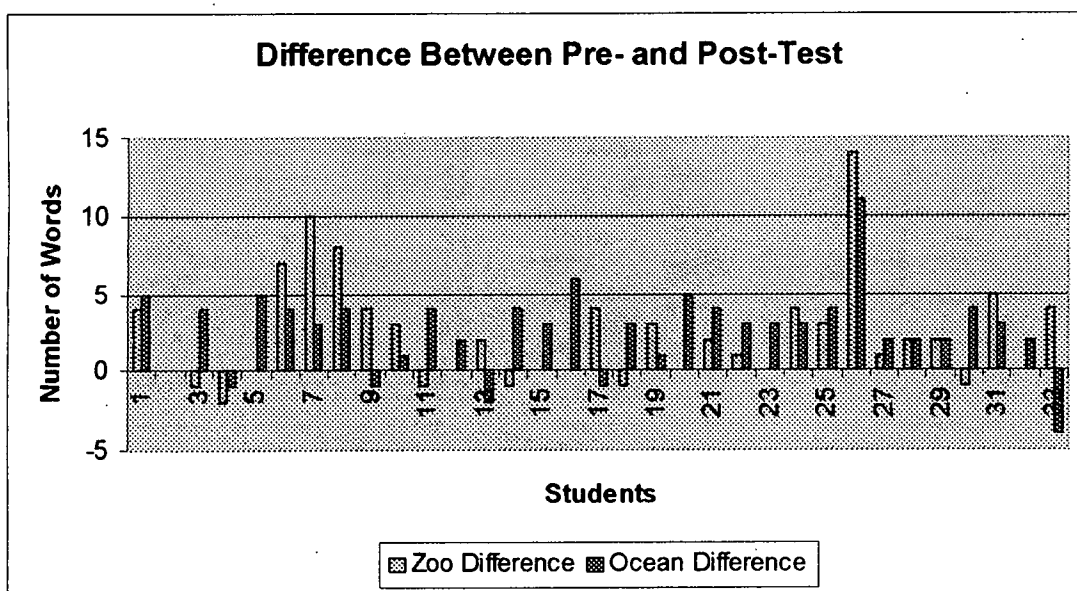


Figure 4

The third research question considered the effect of extending the instruction. Although statistical data did not show an increase in the amount of words learned, qualitative data was able to show the effect of extended instruction on kindergartners. The notes taken while interviewing students, as well as classroom observation notes I took during the study were analyzed and these results will be discussed in the following section.

Analysis of Qualitative Data

Unfortunately, not all the outcomes from using the BoardMaker picture-symbols came through in the quantitative data. Some of benefits were seen in the classroom, which were not taken into account through other data collection. Qualitative research enables the researcher to “interpret and make sense of what he or she sees [and] is critical in understanding and social phenomenon” (Leedy & Ormrod, 2004, p. 133). Incorporating both types of research methodologies helped me to present a richer description of the effect the intervention had on my

students. The two emerging themes that will be discussed in this section are Word Wall as a Resource, Self-Initiated Vocalization, and Participation in Read-alouds.

Word Wall as a Resource

The most promising difference between the two classes was most noted in my field journal and also through the interviews. On several occasions, I made note that the participants in the treatment group made reference to the word wall, or to the thematic unit, but the afternoon class never seemed to have that connection. The first time I saw the potential in the word wall was one of the first zoo lessons. After reading about pandas, the students were asked to write a fun fact about the panda. In their sentences most of the students used the word panda. In my journal I wrote:

Students used the word wall to spell panda in their sentences. Some used it on their own. Others asked, "How do you spell panda?" and I replied, as I often do, "Where can you find it?" They looked right over to it [word wall] without further direction. (April 16, 2008)

The students' meaningful use of the word wall, and its importance in our classroom was exemplified by that example. Not only did they see the picture-symbol, they read and wrote the word. The more children are exposed to the new vocabulary words, the more likely they are to internalize it.

Another experience the morning class had due to the vocabulary word wall was also during the zoo unit. A little girl came in with her stuffed tiger and asked if "we would be doing a tiger picture today?" and pointed to the word wall.

Our lesson for that day, which was originally to be lions, was changed to tigers due to her interest, and we started by passing around her stuffed animal. This led into the introduction of our vocabulary word and also our book.

While reading the book *A Trip To the Zoo*, we came to a page about a koala and a little boy in the morning class said, "Hey that's on our vocabulary word wall" (April 28, 2008). Another student saw a seagull in the book *Beach* and also reminded us, "Hey that's on our word wall." (May 21, 2008) There was never a similar reaction in the afternoon class, and no one made reference to a vocabulary word from our unit. They would refer to an animal they knew the name of, but without the distinction that they knew that was a word on which we were focusing.

Interviews

Even while interviewing, two of the children in the morning class went to the word wall to help them remember a word they knew they should know, but couldn't remember. The first time I was interviewing a morning student, she said:

Student: "It's missing..." and gestured around her face.

Teacher: "What is that called around it's face?"

Student: "Mmm, let me go find it out." (walks over to the word wall) "Did you take it off?"

Teacher: "I took them off."

Student: "Oh man. Mmm, oh a shaggy mane. It's missing a shaggy mane." (Interview 19, May 1, 2008)

I had already taken the picture-symbols down because we were starting the next unit. But she knew where the information was; she knew where to find it. The second time a student referenced the word wall was during his ocean post-test. He couldn't remember the word pearl, went into the room, and came back and announced the word.

Self-Initiated Vocalization

Another theme that emerged through the observational notes was the amount of times the morning class used the vocabulary words during independent reading. The bookshelf in our classroom was filled with fiction and non-fiction books pertaining to the unit. I did not read them all during the unit, but made them available for the students to read during their free time.

I would see students reading in groups, particularly with non-fiction books, and they would shout out the names of the animals they recognized in the book. I took notes in my field journal to record such happenings. On April 30, 2008 I noted, "While reading a zoo book before school Ethan was naming all of the animals. Ryan named the monkey." This self-initiated vocalization was only happening in the morning class. On May 27, 2008 I wrote, "Kristen, Claire, and Jason yelled stingray when they see one in the 3D Ocean book." Those students were also in the morning class. I did not have notes about any of the students in the afternoon class using any of the vocabulary words without prompting.

Not only were the books available for the students, so was the magnetic scene that served as their pre- and post-unit test. It was displayed on a table near the door where the students lined up each day. The morning class seemed

more aware of the scene and was often seen over by it playing with the pieces, studying it and talking about it with their peers. However, unlike the books, the afternoon class also showed some interest in the scene. On April 24, 2008 for the morning class I wrote in my field journal, "I moved the scene to the desk – increased interest as they would talk to me they would move pieces around and I'd ask them the names of the animals." I also noted similar interest in my afternoon class and I wrote, "also increased activity with the scene" (April 24, 2008. Having this available for their manipulation increased the amount of attention it received in both classes.

After such success with the placement of the zoo scene, I left the ocean scene on the desk by the door as well. On May 15, 2008 I wrote in my journal, "Students did not see/play with the zoo scene, but they can't keep their hands off this one." To my surprise the amount of attention the ocean scene received was greater than the zoo scene. One student found a school of fish, and then the octopus one day while in line for P.E. After reading *One Tiny Turtle* a student in the afternoon class noticed the sea turtle in the ocean scene as we lined up for recess and said "Hey there's the mommy sea turtle." (May 20, 2008)

Participation in Read-Alouds

The final theme that emerged through the observational notes coding was the participation level between the two classes. Overall, both classes, were less interested in the non-fiction book. However, in the morning class I was able to use the picture-symbols during the book, which increased their participation. While I was reading *Tickly Octopus*, which was a book that included many ocean

animals, I would hold up the corresponding picture-symbol and the students would help me read the word. I noticed "lots of verbal participation" whereas the afternoon class had "very little participation" (May 15, 2008).

During the zoo unit the pictures started strong discussion before the book was read. After showing the picture symbol for koala, which shows a koala in a tree, the children predicted it lives in trees. From there it was also predicted that koalas eat leaves, have claws, and sleep in trees like panda bears. Conversely, the afternoon class had "not as much discussion before the book" (April 21, 2008).

Not only did the picture-symbols launch discussions and predictions, they also led the morning class to an additional vocabulary word. While we were talking about tigers and lions, the students noticed a huge difference – a tiger does not have a mane. Most of the students did not know what a mane was, and after so much discussion, it was agreed that it should be added as a vocabulary word on our Word Wall.

Summary

Although my plan was a quantitative study, I was also able to include some qualitative data. The benefit of the picture-symbol intervention was shown more through the qualitative data than through the quantitative data. The treatment group, the morning students, made connections with the words, their own learning, and the storybooks we read in the classroom than the afternoon class, the control group. The themes that were found through the analysis of the qualitative data were vital in my understanding of the benefits of the BoardMaker

picture-symbol intervention. The implications for these findings will be discussed in Chapter V.

CHAPTER V

DISCUSSION

My research study explored the effectiveness of BoardMaker picture-symbols on kindergartners' use of thematic vocabulary in discussion. I asked the following research questions:

- d. What effect did low socio-economic status have on students' home literacy environment?
- e. Will BoardMaker pictures increase the kindergartners' use of thematic vocabulary in an oral discussion?
- f. Did the extended instruction result in greater word learning than the incidental exposure in kindergarten?

I answered these questions by collecting data from multiple sources. I then analyzed the data looking for significant changes between the groups. I then looked for correlations among all the variables. This became a mixed-methods study as I analyzed and interpreted both quantitative and qualitative data. The interpretations of this data, as well as, the implications from this study will be discussed in this chapter. Future research and possibilities of further investigation are also discussed.

Home Literacy Environment

I define home literacy as the literate environment in the child's home, including parental involvement, accessibility of literacy tools, and opportunities for children to participate in literacy-rich activities. As a school whose majority of students live below the poverty line, research indicates that the literacy support in my students' homes should be low.

The results of the data analysis revealed a different picture, however. The lunch status, which was used to gage the students' socio-economic status, had no significant correlation with the Home Literacy survey or the CTC. This does not support studies that show a low SES is an indicator of a home environment lacking literacy opportunities. Naude et al. (2003) support academic deficiencies because of lower income. Wasik and Bond (2001) found similar studies that marked underprivileged children as those coming to school with "limited exposure to books and underdeveloped literacy and language skills" (p. 243).

My data does show a strong correlation between the zoo post-test and the ocean post-test. The more words kindergartners knew from the zoo, the more likely they were to know words on the ocean post-test. Similarly, the fewer words they knew on the zoo post-test, the fewer words they knew on the ocean post-test. This supports the *Matthew effect*, which states the more words a child knows, the more they are able to acquire (Wasik, 2006).

The CTC and Home Literacy Survey descriptive statistics illustrate the likeness between both classes. Overall the children came from similar homes in the sense of literate environments, so one class did not have an advantage over

the other. I did look at individual items on the Home Literacy Survey to see if any items were significantly different between the two classes in hopes of finding a key element that enabled the afternoon class to learn as many words as the morning class did, without additional interventions.

Figure 1 shows the children in the afternoon class, the control group, are more likely to ask their parents to read to them. This internal interest in reading, demonstrated through the parent surveys, could be a factor in why there was no correlation between the intervention and the words learned. If children in the afternoon class were exposed to more books ahead of time, and probably more words, it could be argued that they were more likely to increase their vocabulary knowledge through incidental learning alone. Coyne, McCoach, and Kapp (2007) state children with lower initial vocabularies "are less likely than their peers with higher vocabularies to learn words incidentally while listening to stories" (p.75).

The correlation between the CTC and Parent Survey of Home Literacy was not strong, only +0.33 (shown in Table 1). Perhaps the tests could have been measuring different things. Because the parents were not familiar with the books on the CTC does not mean they don't engage their children in literate activities. Based on the responses I received on the CTC, parents were more familiar with more traditional books, *The Velveteen Rabbit* and *The Pokey Little Puppy*, than they were with newer books, such as *Tuesday* or *Cloudy With a Chance of Meatballs*. This supports, and extends the research by Green et al.

(2006) that not only do educators need access to high quality literature to provide language development, but so do families.

Another factor dealing with the CTC could be their children's interest in reading books based on media characters, rather than stand-alone characters. Some of the students in the kindergarten survey referred to their favorite books as Bratz or Transformers. Both are media creations that were turned into the focus of books, instead of being just characters from a book. Reading such books to children can play an important role in their development as readers but it could have been a factor in the scoring of familiar children's book titles. The parents might have scored higher had I included some more media based storybooks on the checklist.

The CTC was based off a similar checklist created by Senechal et al. (1998) for use in a study to look at the effects of home literacy on oral and written language. The CTC was used, as it was in my study, as a reflection of the parents' exposure to children's books presumably from reading to their child. Senechal et al. (1998) found a positive correlation between storybook exposure and parent teaching and a kindergartners oral language. This study does not support their findings. My study is more aligned with Weigel et al. (2006) who did not find significant relationship between the child's oral development and the parent-child activities.

Based on my experience with past classes at this school, I was surprised by the amount of home literacy experiences in which my students had participated. In the past I was encountered with many students who reported not

having crayons, paper, pencils, and other literacy utensils at their homes.

Perhaps this was an unusually literate class, and that could have accounted for some of the discrepancies with other studies.

BoardMaker Picture-Symbols

The intervention I chose to use in this research study was one that would be readily available to all teachers. BoardMaker picture-symbols are typically used to increase non-speaking students' ability to communicate with one another, and my goal was to apply this program to the development of kindergarten students' vocabularies. There was no difference found in the treatment group and the control group. The correlation between the intervention and the amount of words learned was not significant. This was surprising at first, however I realized differences in class size, as well as class behavior, which were present before the study, could have made a difference.

The instruction was extended compared to the morning and afternoon class. The picture-symbol was a good starting point for the children to notice things about the vocabulary word and verbalize what they already knew about each word. Once they started sharing ideas, it led to a group discussion, and I was able to facilitate that discussion and lead them into the book. Without the picture-symbol to show the afternoon class, we read the book and there was not any student-initiated discussion before reading. To that effect, the BoardMaker intervention did extend each individual day's instruction.

When I was designing the study, I thought the open ended oral discussion of a thematic scene would give the students the most freedom in their ability to

share what they knew and had learned. The discussion did enable the participants to talk as much as they wanted. On the other hand, it also gave little structure to the students who were too overwhelmed by the picture, or who were unwilling to guess the names of some objects they might not have known.

If the students were bored with their assessment, or if I had interviewed them on a bad day, the thematic scene enabled them to virtually quit before they had fully described the scene. One student in the morning was in the middle of the interview when his class walked out the door to go to P.E. He took one look at the kids walking down the hallway, said he was finished, stood up and got in line with the rest of his class. I explained he would not miss any P.E., but he did not want to come back and finish his interview. There were also some students, who during the ocean post-test were tired of being interviewed and told me as little as they could get away with.

Having flashcards, or another form of structured assessment, could have ensured the participant would have seen each vocabulary word and could have responded. I would not have used BoardMaker for the same reasons I chose not to use them in the thematic scene. I wanted the students to be able to transition from picture-symbol to illustration, just as they are likely to do when they encounter such words in the text of a book.

A similar transition could be made between the picture-symbols and a concrete object, or a prop as was used in the Wasik and Bond (2001). This change from a visual cue to a word is remarkable and as Wasik and Bond (2001) found, increases the amount of vocabulary the students used in discussion while

playing. Sociodramatic play is an element that could have enhanced the amount of words the students were able to learn. And, as Piaget, Erikson, and the IRA support, children learn language by using it purposefully. (1962, 1963, 1996) The play center in the classroom could be filled with props, concrete objects representing the thematic vocabulary. In order to communicate successfully with their peers in this type of play, they would need to utilize the vocabulary they were learning with the picture-symbols. This makes the language very real and useful to the children, as Roskos (2000) found, they will naturally incorporate literacy into their play.

Word Wall

The qualitative data in Chapter 4 illustrates the times the students made reference to, or utilized the Word Wall. These data were not available through quantitative study, but only through the use of observational notes I took while I was experiencing this study with my students. I am glad that I took such notes in order to support the use of a vocabulary word wall.

To me the word wall is a very valuable tool. It gave the students a resource to create their own learning. If they needed a word in their writing, or their reading, they could have gone to the vocabulary word wall, just as they go to the color words I have displayed in my classroom. Those moments made the word wall so valuable to me. It gave the students the ability to learn, which makes them so proud. When the student came back to me to announce the picture he was talking about was a pearl, his whole face was beaming. He had a problem and had the opportunity to solve it all on his own.

Not only did it aid in the students' learning, but it also was a reminder for me to encourage speaking with more nouns. In my field journal I noted, "It does force me to use the noun, as well as asking the kids to" (April 22, 2008). When they would start to share something and refer to the animal as that, I would often interject, "What?" and it would be a verbal cue for them to be more specific and they would respond with the noun. This was also found to be true in the Wasik and Bond (2001) study. The intervention teachers used the target words considerably more than the control teachers did. However, I found myself in both classes encouraging my students to be more specific in their daily discussion. Although their words weren't always correct, it created teachable moments when I could correct, or prompt them to use the correct word.

It also gave me direction in my vocabulary teaching, and it helped the students and me notice how interconnected our storybooks were. In the morning class we were discussing the koala BoardMaker picture-symbol before we read our book, and it spurred predictions. From the picture-symbol they predicted the koala spent time in trees, ate leaves, had claws, and slept in trees like panda bears. That small picture sparked a connection between the two animals, and also allowed them to use deductive reasoning to learn about koalas.

The BoardMaker picture-symbols may not have increased the amount of thematic vocabulary the kindergartners used in an oral discussion, but I still feel they are a useful addition to the classroom. As in my opening story, a student in my class, who is a Young 5 (in the first year of a two-year kindergarten class) noticed, upon walking into the classroom, there was an addition to our word wall

that had happened without him. That was a moment, because of the word wall, that allowed me to introduce a new word into that child's vocabulary. He was exposed to a word he might not have ever heard, and that makes the word wall important to me.

Discussion/Interviews

Another interesting difference between the two classes was the amount of time they spent talking to me during the pre- and post-test interviews. The morning class was more likely to explain and re-explain the magnetic scene to me, whereas the afternoon class would say each animal once and then announce they were finished. The morning class is much more talkative, and less attentive while I am teaching, than the afternoon class. That was a classroom management concern that could have affected the amount of learning.

Some of the interviews were interrupted because of the circumstances in which I had to audio record the participants. In two interviews a teacher walking by and talking to us interrupted us. In multiple morning interviews, the music class going on, or the students in the hallway switching classes over shadowed the participant's voice on the audio recording. As I began to notice this was making it harder for me to hear and record their responses, I started spending the time to walk down the hallway to an open classroom, or to interview the students after school while they were in aftercare. This was much more efficient for the recordings.

Class Size

The morning class was comprised of twenty-four students and the afternoon class had only sixteen, although only twenty-two and eleven, respectively, agreed to participate in this study. This lopsidedness was a result of parent preference in choosing the classes. Perhaps they wanted their children to walk to school with their siblings, so they wanted their student to come to my morning class. Or they knew their child was a morning person, so they chose to have them attend the state-mandated kindergarten in the afternoon. Another factor was the amount of students in the kindergarten building's classes. As their morning filled up, it was necessary to have them attend my morning, if they wanted to come to my program. Once my class reached twenty-four students, and I ran out of desks, the parents were no longer given a preference if they wanted their child to attend my class.

This large morning class created fewer opportunities for my aide and me to interact one-on-one with the students. They were less likely to be able to ask questions or individually orally respond to the learning because of the number of other children that needed to be recognized. Schechter and Bye (2007) include small group size and high teacher-child ratios as primary factors shown to increase the learning outcomes in an early childhood education classroom. This finding concurs with the study by Green et al. (2006) that found "the number of students taken care of by the educator" (p.8) to be a determining factor in the amount of literacy learned in the classroom. Perhaps class size could be related to the lack of increase in the treatment group's word learning.

Along with the reduced amount of communication, the morning class also posed far greater behavior issues. The classroom management would encroach on the amount of time I could spend instructing the students. In my field journal (April 30, 2008) I noted that the aide had to read a book and discuss the vocabulary word one day because I was disciplining a child. I remember coming back into the room having missed the whole book and looking around realizing few of my students were listening.

Another issue I faced with this class was the amount of attention I received while I was reading. With so many children, it is hard to keep them separated from one another while sitting on the floor reading a story. I would often look around and see children paying more attention to the person touching them, than to the book. The size of the class, as well as their behaviors, could have been factors impacting the results.

Limitations

The limitations in this study pertained mostly to the setup of my classroom. My sample size was small, with only twenty-two in the treatment group, and half as many, eleven, in the control group. I was also unable to randomize the selection of my participants. The size of the morning was a limitation, and affected the amount of time we were able to spend on each vocabulary word. The morning class had almost a full day more of instructional time than the afternoon class because of our school's schedule. And when we were in school, our days were often interrupted with special events or I was out of the classroom, and the vocabulary instruction was not as consistent as I would liked for it to be.

Based on the statistical data, it does not appear that this form of extended instruction was any more productive than the incidental learning. However, many factors could have contributed to that result, as discussed previously. The amount of literacy in the afternoon class' homes, as well as the smaller class size, and the fewer behavior problems, could have affected the outcome.

As both the researcher and the teacher, I was unable to maintain a constant stream of instruction from day to day. I was often out of the room for quarterly testing, committee meetings, and workshops. My aide was able to introduce the vocabulary and picture-symbol, as well as read the book similarly to how I would have done it, but it still was not constant.

Implications

As I began this study, asking myself, "What can I do to increase the vocabulary knowledge of my kindergarten students?" and "How can I make this accessible to all teachers?", I was excited for the possibilities. Although no strong statistical evidence was found in favor of using the BoardMaker picture-symbols, I feel strongly that they were a benefit to some of my students, and that is enough reason for me to continue to incorporate this practice into my classroom. My feelings about this intervention are strong, due to the observational data I was able to collect through interactions with my students.

I will also encourage other teachers to include such visual interventions into their own rooms. "Everything a child sees, hears, thinks, and touches transfers into an electrical activity" which is stored within the brain (Wasserman, 2007, p. 415). There are always visual learners that will appreciate this attention

to detail in teaching. There are always students who, for whatever reason, make connections with interventions used in the classroom. This is such a simple way to invest in the vocabulary development of students; I think its qualitative benefits outweigh the ambiguity of the quantitative ones.

As for the parental component of this research study, I was happily surprised to see how much literacy is happening at home with the kindergartners. Weigel, Martin, and Bennett (2006) conducted a study to compare the various components of the home literacy environment and preschooler's literacy and language development. Weigel et al. (2006) found preschoolers,

exhibited greater print knowledge skills and stronger interest in reading and books when their parents read aloud to children, provided picture books in the home for children's use, visited the library with their children, and engaged in reciting rhymes, telling stories, drawing pictures and playing games with their children. (p. 371)

These were some of the components of the Home Literacy Survey the parents took for this study. They are giving their children opportunities to partake in most of these areas, and there are a few I feel I can address with my students' parents and encourage them to include at home as well.

Parents were least likely to cook with their children and tell stories; this is something I would like to address within my own classroom. We cook with the students every Friday, which I think is a great experience for them. Then we send the recipes home with them so they have the opportunity to make it at home as well. I think I would like to extend this idea into a kindergarten, or even

school wide, family night. All of the families could come in and make a snack at school, and I could be there to discuss the academic components of such an activity. We could also create a classroom cookbook to send home with the students, which would give the parents a resource for their homes.

This idea would go for storytelling as well. That is a skill I am hoping to introduce into my class next year. The basis for telling a story is the same we use in writing a story, and having that foundation will be helpful as they learn to journey through the story elements of books. Parents can work on this in the car with their children; it requires no materials, just a story and time to share it. This is also an idea that would be beneficial for me to share with my parents during the school year.

The last implication is that of quality children's literature. Some of my students had said they have never been to the public library, and the parents noted that as well. There are so many books there that offer such a world of possibilities in learning and language. I want to help my parents, as well as myself, become familiar with such great books and encourage our students to read these as well as media based books.

Further Research

To take the study and explore it further, I would investigate the differences in a myriad of ways. So much data have been collected with their transcribed discussions alone the possibilities of discovery are almost endless. The groups could be divided and analyzed based on different variables. Another element that could be brought into this study would be a standardized pre-test to show the

students' baseline. Perhaps the Peabody Picture Vocabulary test or a state mandated kindergarten readiness test. A standardized test would enable you to tell who needed the most intervention, as well as help determine what gains were made.

First I would look at the difference in learned words of boys versus girls. I would also look to see if students on speech Individualized Education Plans (IEPs) made noticeable gains. Their discussions would allow me to study their use of language; I noticed grammatical errors while they were talking, as well as dropped sounds, such as talkin' instead of talking. And both studies were mainly comprised of animals. Introducing more abstract vocabulary words, as well as adjectives and verbs would be another direction a similar study could go.

Between the morning and the afternoon class, I want to look at the amount of time they spend talking about the scene and why there might be a difference. The morning students also seemed more aware of the thematic scene when it was displayed in the classroom and were more apt to play with the pieces while they were being interviewed. The morning students would also make sound effects while they were talking, which I did not notice while transcribing the afternoon class's discussions.

Also, this study only lasted two months, which might not have been enough to enable it to fully develop. According to McKeown et al. (1985) 10 to 18 encounters with a word provides sufficient improvement, and I am not sure if the students in my study were able to encounter each word that often. Lengthening the unit would enable the teacher to read more books and have

more discussion, increasing the opportunities for the students to encounter the words. Similarly, Beck and McKeown (2007) found increasing the amount of time spent learning new vocabulary, 27.6 minutes versus 6.6 minutes, yielded gains almost twice as large. If I were to replicate this study, I would have also extended the length of the unit. Although each unit lasted for four weeks, taking away the weekends, the days off, and the special events, we were not able to teach this vocabulary for twenty days. The zoo unit lasted a total of ten days. That is not enough time for the students to internalize these words. The ocean unit was taught in our classroom for only eleven days.

If I was going to replicate this study, I would have also included an assessment that included flashcards with the vocabulary words, as well as some foils, so the students who needed it would have had more direction in their assessments. After some interviews, as their teacher I knew they knew more words than they had said, so I would pointedly ask, "What's this?" They would always be able to answer my question, but had failed to identify that animal or use that vocabulary word in the recording.

I will continue to search for beneficial ways to increase the amount of vocabulary my students possess. It is critical for them as they move through their education to have a strong foundation and understanding of the world around them. That knowledge will enable them to respond to literature and create writings with great success. In the International Reading Association's summary of the National Reading Panel Report, recognizes the importance of vocabulary instruction by stating, "More experimental studies are needed in this

promising area because it bridges early reading skill development and later comprehension training" (p. 13). I intend to conduct further research in this area to ensure students are receiving the most beneficial vocabulary instruction they can.

Awareness of the importance of students' vocabulary is beginning to grow. Districts should make vocabulary instruction a prominent influence on daily learning. Not only schools, but also parents need to be made aware of the importance of talking to their children and introducing more words to them. Educators and parents can work together to strengthen students' academic success through vocabulary knowledge.

Further studies could be conducted to find the most effective way of teaching vocabulary words to kindergartners. Not only the effectiveness of each technique, but also to investigate the long-term effects of such instruction. The field of education needs to begin to look at the importance of this skill and prepare teachers to address it in their classrooms, in all grades and all subjects.

Summary

In this study, I was hoping to find another purpose of BoardMaker picture-symbols, an effective intervention to increase the amount of thematic vocabulary my students could learn. Although statistical data did not support the use of this intervention, my observational notes revealed the positive effect picture-symbols had on my students in the classroom. I learned posting BoardMaker picture-symbols on a Word Wall is a valuable tool for my students and will continue to

use it in my classroom. Not only that, but I will also continue to search for a way to use this tool even more effectively.

APPENDIX A
Parental Survey

1. How often do you, or other members of your family, read to your child in a typical week?

At bedtime:

___ never ___ once ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___ 7 times ___ more, please estimate:

Other times:

___ never ___ once ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___ 7 times ___ more, please estimate:

2. During a typical week, how often does your child ask to be read to? Choose a number from 1 to 5, where 1 means *never* and 5 means *often*.

My child asks to be read to:

Never	Rarely	Sometimes	Often	Very often
1	2	3	4	5

3. Please circle the number that you think best describes you and your child's behavior. Choose a number from 1 to 5, where 1 means *never* and 5 means *very often*.

My child goes to the public library:

Never	Rarely	Sometimes	Often	Very often
1	2	3	4	5

4. Please estimate the number of children's books that are available in the household:

___ none ___ 1-20 ___ 21-40 ___ 41-60 ___ 61-80 ___ more, please estimate:

5. How old was your child when you started reading picture books to him or her?

(please estimate age) _____

6. During a typical week, how often do you engage in the following activities?

Choose a number from 1 to 5, where 1 means *never* and 5 means *very often*.

	Never	Rarely	Sometimes	Often	Very often
I teach my child how to print words.	1	2	3	4	5
I teach my child how to read words.	1	2	3	4	5
I cook with my child.	1	2	3	4	5
I share stories with my child.	1	2	3	4	5
My child shares stories with family.	1	2	3	4	5

7. During a typical week, how often do you read?

__ never __ once __ 2 __ 3 __ 4 __ 5 __ 6 __ 7 times __ more, please estimate:

APPENDIX B
Children's Title Checklist

Children's Title Checklist (CTC)

Please place a checkmark (✓) next to the children's book titles you recognize.

- | | |
|---|--|
| <input type="checkbox"/> The Mitten | <input type="checkbox"/> The Toy Truck |
| <input type="checkbox"/> The Snowy Day | <input type="checkbox"/> Love You Forever |
| <input type="checkbox"/> Brown Bear, Brown Bear | <input type="checkbox"/> Velveteen Rabbit |
| <input type="checkbox"/> Big Old Trucks | <input type="checkbox"/> Three Cheers for Gloria |
| <input type="checkbox"/> A Pocket for Corduroy | <input type="checkbox"/> The Poky Little Puppy |
| <input type="checkbox"/> Caps for Sale | <input type="checkbox"/> The Runaway Bunny |
| <input type="checkbox"/> Clarissa's Patch | <input type="checkbox"/> Scuffy the Tugboat |
| <input type="checkbox"/> Curious George | <input type="checkbox"/> Kimberly's Horse |
| <input type="checkbox"/> Eleanor and the Magic Bag | <input type="checkbox"/> Cloudy with a Chance of Meatballs |
| <input type="checkbox"/> Franklin in the Dark | <input type="checkbox"/> Zack's House |
| <input type="checkbox"/> Goodnight Moon | <input type="checkbox"/> The Very Hungry Caterpillar |
| <input type="checkbox"/> Where the Wild Things Are | |
| <input type="checkbox"/> Tuesday | |
| <input type="checkbox"/> We're Going on a Bear Hunt | |
| <input type="checkbox"/> Jelly, Belly | |
| <input type="checkbox"/> Harry the Dirty Dog | |
| <input type="checkbox"/> Hello Morning, Hello Day | |
| <input type="checkbox"/> Green Eggs and Ham | |
| <input type="checkbox"/> Snowflakes are Falling | |

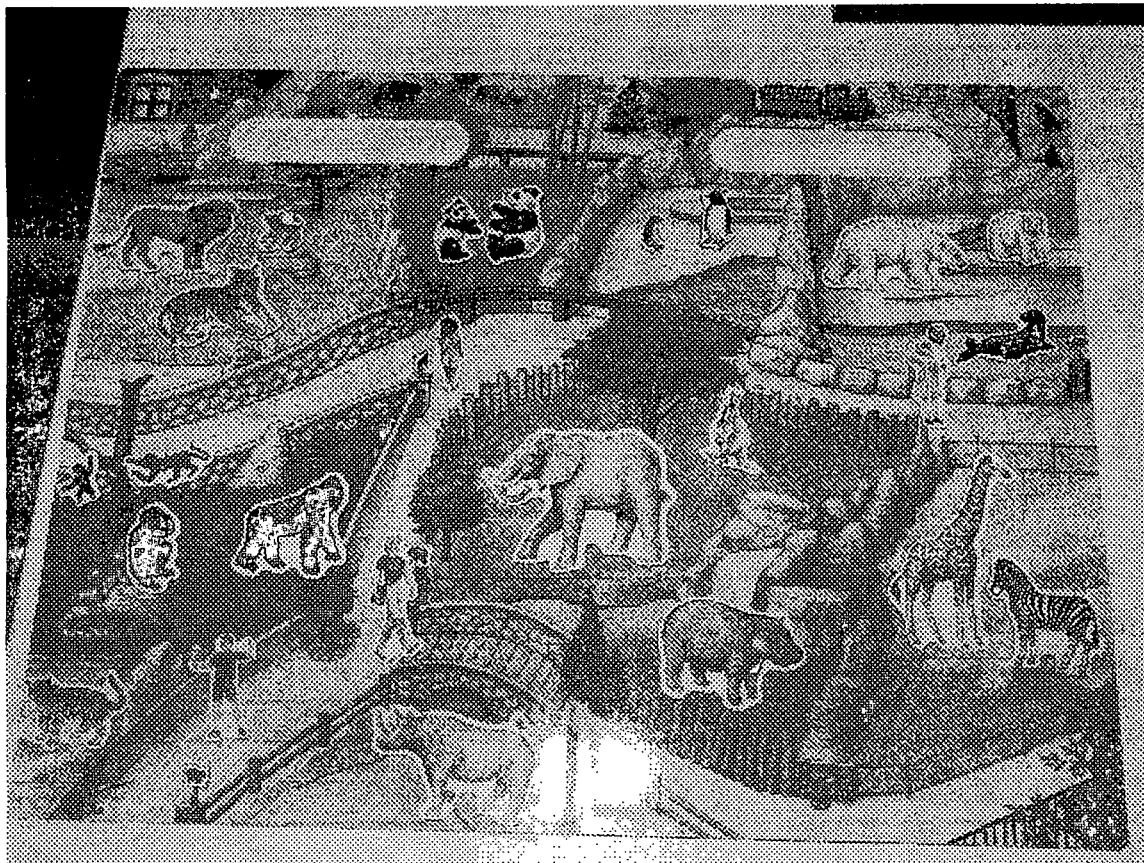
APPENDIX C
Kindergarten Questionnaire

Kindergartner Questionnaire

1. Who reads to you at home?
2. What is your favorite book?
3. Who does your homework with you?
4. Do you go to the public library?
5. Do you have any books at home?
6. Does your family read when they are at home?
7. Do you tell stories at home?
8. Do you use a computer? If yes, what do you do when you are on the computer?
9. Which do you do the most? Read books, watch TV, play video games, play outside?
10. Do you write when you are at home?
11. Do you draw pictures at home?
12. Do you cook when you are at home?
13. In your house, do you use
 - a. Pencils?
 - b. Paper?
 - c. Crayons?
 - d. Scissors?
 - e. Markers?

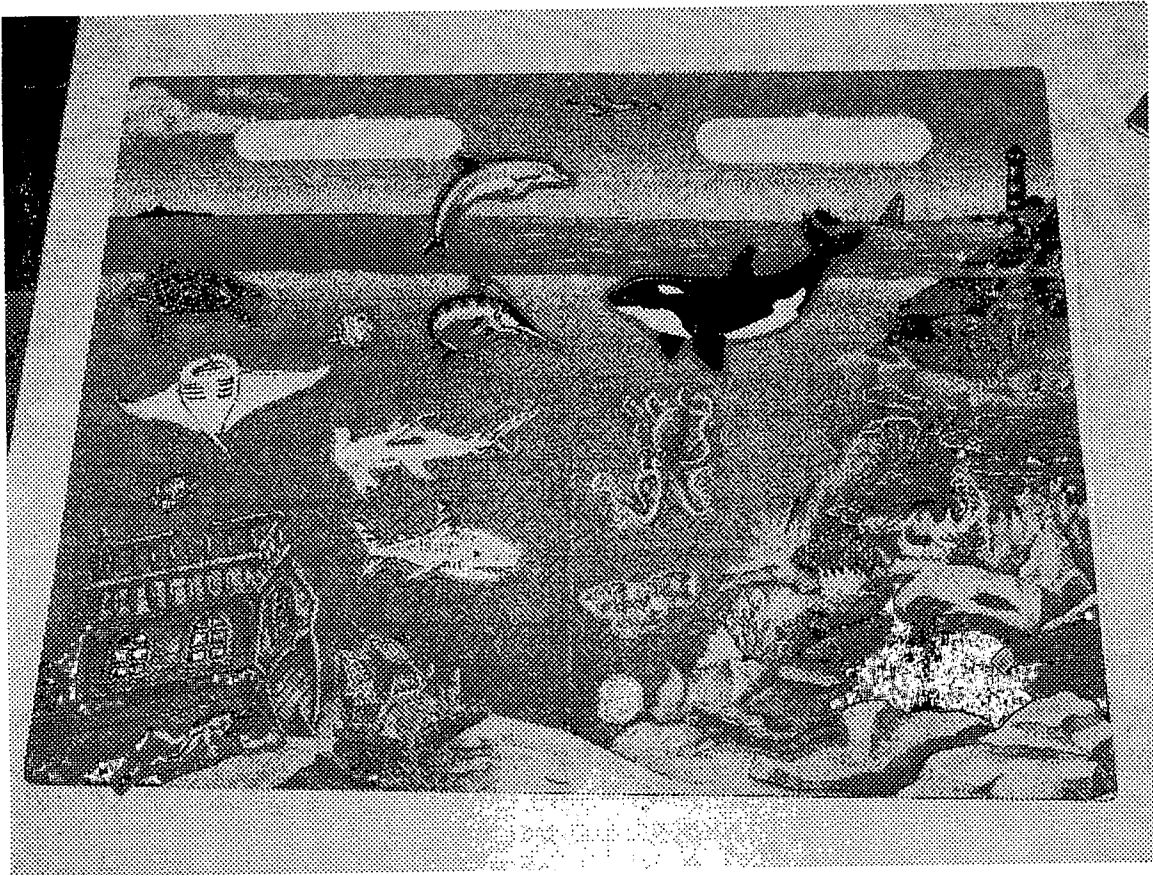
APPENDIX D

Zoo Scene



APPENDIX E

Ocean Scene



APPENDIX F

Letter of Intent to Parents

February 19, 2008

Dear Parents and Guardians,

My name is Beth Perry, and I am your child's kindergarten teacher at Frank Nicholas Elementary. I am also a graduate student at the University of Dayton. I am currently conducting research for my thesis, and am asking for the assistance of you and your child in this study.

I am exploring the effect of using BoardMaker pictures (a computer software program) to teach the students new vocabulary words. If you agree to participate in this study, I will conduct a one-to-one session with them asking them to discuss a thematic picture with me. Our discussion will be taped in order for me to record the number of vocabulary words they used while they were talking. Additional data will include the transcripts of these discussions, as well as a questionnaire from the child. I was also hoping that you would be able to answer a few questions for me. I will use a code number for each student to insure confidentiality.

In appreciation for your child's participation, s/he will receive a children's book at the end of the study.

Additional details about the study may be found by reading the attached consent form. If you agree to your child participating in this study, please return the signed consent form in the self-addressed stamped envelope enclosed.

If you have additional questions about the study, please do not hesitate to contact me at (937) 859-5121 ext. 2256, or email me at eperry@wcsd.k12.oh.us. You may also contact my advisor, Dr. Mary-Kate Sableski, at (937) or Mary-Kate.Geraghty@notes.udayton.edu. Thank you for your consideration.

Sincerely,

Beth Perry

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