The Effect of Semantic Mapping

on the

Vocabulary Acquisition of Intermediate Elementary Age Students

By

Rachael Dudzic

May 2013

Submitted in Partial Fulfillment for the

Degree of Master of Education

Table of Contents

List of Tables

ABSTRACT

The purpose of this study was to determine whether semantic mapping would positively affect the vocabulary acquisition of intermediate level elementary school students. The measurement tools were the Open Court Reading Diagnostic and a teacher rating scale. This study involved the use of a pretest/posttest design to compare data. Achievement gains were statistically significant. Research in the area of vocabulary acquisition should continue based on the need for effective vocabulary instruction.

CHAPTER I

INTRODUCTION

Overview

Vocabulary development is a critical part of the reading process, and is therefore an important component of reading instruction. The extent of a person's vocabulary often determines the degree to which he can effectively communicate and engage with the outside world. Having a rich vocabulary is an essential part of reading and comprehension. Without an advanced vocabulary, students are unable to comprehend advanced texts and to meet the challenges of advanced learning.

Over the past several years this researcher, who is also an intermediate elementary school teacher, has noticed the limited reading, writing, and conversational vocabulary of struggling readers. This lack of vocabulary is pervasive and affects so many facets of their education. They struggle with comprehension because they don't understand the words they are reading. They struggle in the content areas of science and social studies because they are unable to make connections between the unfamiliar vocabulary and the concepts they are learning.

A study completed by Beck and McKeown in 2007 found that vocabulary knowledge is strongly linked to a student's reading comprehension. Another study completed by Baker, Chard, Fien, Haria, Park, Santoro & Williams in 2011 determined that not only is there a relationship between vocabulary knowledge and reading comprehension, but also that this relationship grows stronger over time, making it essential for long term reading comprehension and reading success. One promising

instructional strategy that focuses on improving students' ability to learn and retain their vocabulary knowledge is semantic mapping.

Statement of the Problem

The problem includes students' understanding the definitions of complex words and the connections of these words to their prior knowledge and to the real world. Because they are unable to do this, they have a hard time retaining and applying new vocabulary. The purpose of this study, therefore, is to investigate whether the teaching of vocabulary words semantically would significantly improve students' ability to learn and retain their vocabulary knowledge.

Null Hypothesis

There will be no statistically significant difference in the vocabulary acquisition of students who receive instruction using semantic mapping when compared to students that did not receive semantic mapping instruction.

Operational Definitions

The independent variable in this study was the vocabulary intervention instruction (i.e. The teaching of vocabulary words using semantic mapping), while the dependent variable was the students' vocabulary acquisition as measured by vocabulary assessment. Vocabulary acquisition is the application of the vocabulary strategies as they are taught in the intervention, which is semantic mapping.

For the purpose of this study, vocabulary acquisition was operationally defined as students' scores on the Open Court Reading Diagnostic Assessment (Levels 4-6), referred to as the OCR difference. A second measure of the students' vocabulary acquisition was a Teacher Rating Scale (TRS) that was designed by the researcher. Students' scores on this scale represented a second operationally defined definition of vocabulary acquisition.

CHAPTER II

REVIEW OF THE LITERATURE

Overview

This literature review seeks to explore the effect of semantic mapping on the vocabulary acquisition of intermediate elementary aged students. Section one provides an overview of the importance of vocabulary. Section two explores vocabulary acquisition. Section three discusses the possible reasons for low vocabulary. Section four gives information about the different practices in vocabulary instruction. The final section explores vocabulary intervention.

The Importance of Vocabulary

Vocabulary refers to the words that we must know in order to communicate effectively and engage in the world around us. It can be described in two ways: oral vocabulary and reading vocabulary. Oral vocabulary knowledge is the words that we use in conversation, either when we are speaking or listening to others. Reading vocabulary knowledge is the words that we know and recognize in print (Osborn, Albruster & Lehr, 2001).

Vocabulary is an overlooked piece of reading comprehension, but building vocabulary at an early age is a key to future reading success. In fact, "it is clear that a large and rich vocabulary is the hallmark of an educated individual. A large vocabulary repertoire facilitates becoming an educated person to the extent that vocabulary is strongly related to reading comprehension in particular and school achievement in general" (Nelson & Stage, 2007). A child's vocabulary is strongly related to reading

4

proficiency. It has been long accepted through correlational and factor analysis studies that there is an close relationship between vocabulary knowledge and reading comprehension. What is also true is that verbal coding of words, specifically the semantic coding of vocabulary, makes significant contribution to reading comprehension (Beck et al., 2007).

Vocabulary differences among children when they enter school are a result of, and can be attributed to the experiences that a child has before entering school. As early as age three, children with strong vocabularies know approximately 600 more words than children who have what are considered to be weak vocabularies. By the end of second grade, the children with strong vocabularies know between 4,000 and 8,000 more word meanings than students with weak vocabularies (Baker et al., 2011).

There have been a multitude of studies that show a strong link between vocabulary knowledge and reading comprehension. They also show that the relationship between the two grows stronger over time (Baker et al., 2011). Vocabulary development is essential to long term reading comprehension. By fourth grade, children with limited vocabulary knowledge are likely to experience a "slump" in their reading comprehension and will often continue to struggle as readers throughout their years of school (Neuman & Roskos, 2012).

Vocabulary Acquisition

Vocabulary acquisition is a continuous process that starts with students first recognizing a vocabulary word, and applying a superficial meaning. It then develops to an understanding of various meanings and use for the word (Dixon-Krauss, 2002)

Children acquire vocabulary in many different ways. They can acquire words on their own by listening to adults, peers, and others sources of language in their environment. Children can also acquire these words by being read to and reading on their own. This is called indirect vocabulary learning (Osborn, et al., 2001). Another way children can learn vocabulary is through instruction. The teacher can teach vocabulary to them by basing the words on specific domains and content areas and using mature language and texts. This is called direct vocabulary learning.

Studies have shown that children's expressive language development is often linked with the language that parents use with them. The language children develop is also in response to their interests in cues. This also allows children to make real world connections to the words they are learning, making it easier for them to acquire and use the words. (Neuman et al. 2012). Oral and expressive language is the primary source in which children learn the words that they know when they enter school. These oral contexts become less effective as students enter school because many of the words they learn from conversation are the most common.

Typically, developing children learn 3,000 words or more each year. That is about 10 per day, 50 - 70 words per week (Baugh, Brabham, Basketst, Henderson, Paleologos, 2012). Under the best circumstances, vocabulary instruction is able to enrich a child's vocabulary by approximately 300 words per school year (Silverman, 2007).

Reasons for Low Vocabulary

Because vocabulary is essential for overall success in life, it is important to get to the root of the problem and try to determine why children come to school with weak vocabularies. This is the starting point to solve the problem. If the reason for a student's weak vocabulary is discovered, it will be easier to decide what intervention to employ to develop a richer and stronger vocabulary for that child.

There are multiple indicators that may lead to a child entering school with a low vocabulary. Two reasons that are most researched are a child's socioeconomic status and whether the child's first language is other than English.

Several studies have found that first graders of higher socioeconomic status knew at least twice as many words as low SES children (Beck et al. 2007). It has also been found that young children in these areas not only start school with weaker vocabulary, but learn vocabulary at a different pace than their more advantaged peers (Clegg, Spencer, and Stackhouse, 2012). This trend can continue through high school. High School students at the top of their class knew approximately four times as many words as their lower performing peers (Beck et.al. 2007).

Similarly, many children whose home language is not English have more limited English vocabularies compared to their monolingual English peers. Bilingual children are exposed to words in both languages, but not enough to fully understand a variety of vocabulary in both languages. When tested in their second language, bilingual children scored lower on vocabulary measure than their monolingual peers. Findings are similar

when the children are tested in their native language (Blumenfeld, Kaushanskaya, & Marian, 2011)

Another possible reason for low vocabularies in children could be lack of short-term phonological memory. It is an important predictor of vocabulary acquisition. Children's performance on non-word repetition tasks in which the subjects have to repeat non-words predicted their abilities to learn new words in their own language. Therefore, children who were unable to repeat back non-words have a harder time learning new words and adding those new words to their vocabulary (Blumenfeld et al., 2011)

Having a low vocabulary can be a difficult task to reverse. It has been found that children with low vocabularies are less likely to acquire higher-level vocabulary independently. Not only do they know fewer words, but they also have a more narrow understanding of the words that they are familiar with. These children are also less likely to read extensively, which is another way to develop their vocabulary. They are also less likely to be able to use context clues to derive meaning of the vocabulary word from the text (Beck et al., 2007).

Current Practices in Vocabulary Instruction

Vocabulary instruction, like many other aspects of education, is always changing and evolving. Teachers are always looking for new ways to present vocabulary to children and have many different things to take into consideration when constructing their lessons. As stated in a research article in the School Psychology Review, "Vocabulary instruction has the greatest potential to have a measurable effect on

reading comprehension when exposure to rich and varied vocabulary is complemented with direct and sequential instruction that emphasizes the accuracy of word knowledge, fluency of accessing word meanings, and rich, decontextualized examples of a word's application" (Baker et al., 2011, p.309).

Effective vocabulary instruction has three elements: integration, meaningful use, and repetition. Integration means the vocabulary needs to be integrated into as many of our disciplines during the school day as we can. Vocabulary needs to be used across all disciplines, in reading, writing, and any other subjects. The words need to be used throughout the week, not just introduced at the beginning of the week. They also need to be used in a meaningful way. Not only should the students be practicing the meanings of the words and using the words in sentences, but children also need to use the words in conversation and in context. Children should be encouraged to use the words spontaneously and correctly. Finally, there needs to be repetition. The new vocabulary needs to be taught multiple times. Children need to practice vocabulary over and over in order to own the words (Smith, 2008).

Vocabulary also needs to be taught comprehensively. Children need to have rich and varied language experiences in which they are immersed in words through speaking, listening, reading, and writing. They should be given instruction in individual words, taught the meaning of the word, and be given practice opportunities with it. Children should be instructed on how to learn new words on their own by using context, word structure, and outside sources, like a dictionary, to discover the meanings of new words. Finally, word consciousness needs to be fostered by engaging children in

activities that promote their interest, awareness, and motivation to learn new vocabulary (Kamil, Mosenthal, & Pearson, 2000).

Vocabulary instruction can also be contextualized and decontextualized. Contextualized instruction relies on the vocabulary being used in context. This instruction is reliant on the text in which the vocabulary words are being introduced and the children's background knowledge. Contextualized instruction is considered to be less effective when teaching single meaning words because it doesn't broaden the students' thinking beyond the text or beyond their current background knowledge (Silverman, 2007). Contextualized instruction can be valuable when teaching multiple meaning words (Nelson et al. 2007). Decontextualized instruction teaches the vocabulary words outside of the text. This instruction engages the children in analysis of the vocabulary words as they are related to semantics and meaning. It allows students to compare and contrast words, and to respond to words as they are used in a variety of contexts (Silverman, 2007).

A popular strategy for teaching vocabulary is through storybook reading or reading aloud. These strategies are a good way to expose students to new words (Silverman, 2007). Oral reading of a story allows a teacher the opportunity to build background knowledge, teach vocabulary explicitly, review text structure, and model comprehension strategies. (Baker et al, 2011). One way to enhance read alouds is to introduce the vocabulary the children will need to know and pay attention to during the reading. Introducing these key words encourages the children to listen closely to how the new vocabulary is used in context (Neuman & Roskos, 2012). Another way to enhance read alouds for vocabulary learning is to do repeated readings of the text and

to have additional activities that review the vocabulary (Beck et al., 2007). This strategy is used most commonly in the early grades. Ninety-six percent of kindergarten teachers and 75% of first grade teachers reported using this strategy five times or more per week. While this strategy has demonstrated promise for improving a child's vocabulary knowledge, read-alouds lack the intensity that is needed to close the vocabulary gap that can be found between children when they enter school (Baker et al., 2011). It was found that in discussions during read alouds, children often ignored the text when answering questions and relied on pictures and background knowledge for their responses. Children relying on these cues are reducing their opportunities to construct meaning from the text and from the new vocabulary words (Silverman, 2007).

While there are specific strategies to use when directly teaching vocabulary, there are small things a teacher can do every day to improve students' vocabulary. For example, teachers can increase the level of vocabulary they use with the children. Hearing their teacher use more precise and diverse words creates a classroom where the children are encouraged to do the same. It gives them the opportunity to hear higher vocabulary and use it in turn. Making minor changes such as this in a classroom can greatly increase the amount of incidental word learning children engage in.

Teachers can also engage students in word games such a crossword puzzles. These games increase children's knowledge of particular vocabulary words and how these words function in the real world (Smith, 2008). Another strategy to use when teaching vocabulary is to give examples and non-examples. The teacher poses situations where the vocabulary word is used in expected (examples) and non-expected (non-examples) ways. Semantic mapping can also be used to teach vocabulary.

Mapping activities expand children's knowledge base by relating their vocabulary words to other related words and how the words and their definitions are interrelated (Nelson et al., 2007).

Vocabulary Intervention

With so many children coming to school with low vocabularies, it is important to detect their language and vocabulary delays early so that interventions can be put into place. It is important to find ways to improve their knowledge so their comprehension can improve, both in their current school year and future years. This cannot be done through vocabulary instruction alone; an additional component is needed for children with weak vocabularies to catch up to their stronger peers (Baker et al., 2011). Children who participated in a vocabulary intervention were found to only have 2% - 3% loss in word knowledge three months after participating in an intervention. This and other studies have shown the long-term effects of a vocabulary intervention (Silverman, 2007)

Vocabulary interventions that have demonstrated encouraging effects on reading comprehension have three main characteristics. This first characteristic of an effective intervention is that it includes working with both definitional and instructional information of words. It also encourages deep processing of words and provides multiple exposures to the vocabulary words. Small group interventions have also proved to be effective in closing the vocabulary gap between students (Baker et al., 2011).

Research suggests that semantic mapping is an effective way to teach vocabulary. When semantic mapping, children form relationships between words they know and their prior knowledge. These maps integrate and teach the meaning relationships among known words and new words at the same time (Baugh et al.,

2012). These connections help support the children's reading comprehension and retention of the words. Words can be organized into semantic categories that also link words together. This allows children to make sense of the words they are learning.

During this instruction, a teacher would choose texts that teach universal concepts such as size, movement, feelings, or actions. These texts are used for interactive read alouds with the children, and independent reading. These texts can be leveled according to the maturity of the children's vocabulary. Children create a concept egg that has a well known word in the middle, such as big, and then they search their given text for synonyms. By finding these synonyms, children are making connections between the words they know and the new words they are encountering in the text, and expanding their word consciousness.

Summary

Vocabulary is an integral part of overall success, it is important in school and in life. If a vocabulary delay exists, it is important to detect it early in a child's school career and provide that child with an intervention to close that gap. Teachers need to understand how children acquire vocabulary, how to effectively teach vocabulary, and provide early intervention to assist students in developing strong vocabularies.

CHAPTER III

METHODS

Design

This vocabulary study was a quasi-experimental study designed to determine the effectiveness of a vocabulary intervention strategy called semantic mapping in improving the vocabulary development of students at the intermediate level of elementary school. Two groups of students were identified as being in need of an intervention. The identification process was based on their prior performance on county benchmark tests and state-wide assessments. These students scored either "low proficient" or "basic" on the aforementioned assessments. The students were also rated by their teacher based on her informal observation of specific behavior by each student, such as their frequency in asking what certain words meant, or whether the student expressed confusion over the meaning of a word. Once the need for intervention was determined, one group of students received the intervention and the other group of students did not receive the intervention.

Participants

The students who participated in this study attended a suburban elementary school in Anne Arundel County. Of the 480 students who attend the school, 206 were white, 123 students were African American, 78 students were Hispanic or Latino, 20 students were Asian, and 50 students were two or more races. The school's attendance rate was greater than 95% and student mobility was around 19%.

14

A variety of special services were also in place at the school. Less than 5% of the students received special services based on 504 plans. Thirteen and a half percent of the students received special education services. Approximately 40% of students received free and reduced meals based on socioeconomic status.

The students who participated in the study were in the fifth grade. The students were previously grouped according to their ability and performance in Reading and Language Arts.

A pre-test (i.e. The Open Court Reading Diagnostic assessment) was administered, and students were also rated according to teacher observations. The pre-test consisted of four subtest scores that were averaged together to determine the student's overall score or percentile. The teacher rating was completed by the student's Language Arts teacher. The students were rated on a scale of one to three.

Students who scored 65% or lower on the pre-test and were rated a one or a two on the teacher rating scale were placed in the experimental group that would receive the vocabulary intervention treatment. Students who scored higher than 65% on the pretest, and were rated a two or a three on the teacher rating scale were placed in the control group that did not receive the intervention treatment.

Instrument

The researcher used the Maryland State Assessment scores of the students from the previous year, as well as the students' scores on the most recent county benchmark assessment to identify which students would be selected for the study. When looking at these scores, the researcher determined which students were considered to be on a

basic level and on a low-proficiency level. Basic scores were operationally defined as scores that were below fifty percent on the county benchmark assessments and scores below the proficiency standard set by the Maryland Department of Education. Low-proficient scores were operationally defined as scores that were between fifty and sixty percent on the county benchmark assessments and scores within zero to twenty points above the basic standard set by the Maryland Department of Education.

Two instruments were used in this vocabulary study to assess students' vocabulary acquisition. The first instrument was the Open Court Reading Diagnostic Assessment (Levels 4-6) (Wright Group/ McGraw Hill, 2001) and a teacher rating scale.

The Open Court Reading Diagnostic Assessment was created for grade levels 4 through 6. It was provided as a part of the Open Court Reading program. The assessment was completed, by each student, independently Four subtests were given: word families, content-area words, word with multiple meanings, and synonyms and antonyms. The Word Families subtest required that students analyze four words to determine which word did not belong in the same word family as the other words listed. The Content-Area Words subtest required that students read a sentence and use the context clues to determine the meaning a word. The Words with Multiple Meanings subtest gave the students one meaning of a multiple meaning word and the student had to chose the sentence that used the word according to the previous definition. The Synonyms and Antonyms subtest had the students chose synonyms or antonyms for the underlined words in a sentence. All four subtests used a multiple-choice format.

In addition to the Open Court Reading Diagnostic Assessment, a teacher rating scale was created by the researcher in order to validate the diagnostic assessment. The rating scale was administered by each student's Language Arts teacher. The students that were rated were those students considered to be in the proficient and basic range. Their teacher rated the students on a scale of one to three, one being students with limited vocabulary, two being students with adequate vocabulary, and three being students with advanced vocabulary. These ratings were based on the teacher's observations of the students.

The results of both instruments were taken into consideration when determining which students would be placed in the experimental group and the control group. This type of concurrent validity was an important step in the identification of students in this study.

<center>**Procedure**</center>

The first step in this research study was to identify the students who were in need of the intervention in order to form the groups that were part of the research. Students were chosen based on their prior performance on county benchmark assessments. Students who performed basic or proficient on the aforementioned assessment were chosen to take the pre-test for the study.

Students were then administered the pre-test and given forty-five minutes to complete the thirty-four questions. Students were also rated on their vocabulary knowledge.

Students in the experimental group participated in the vocabulary intervention. The intervention involved learning vocabulary words using semantic mapping. Semantic

<center>17</center>

mapping is creating visual webs that help students identify important ideas and words and how these words and ideas fit together. Vocabulary words for the intervention were chosen from the pre-test. The experimental group participated in the intervention for at least twenty minutes a day for four weeks.

Chapter IV

RESULTS

The primary purpose of this study was to determine whether there was a significant difference in the vocabulary acquisition of fifth graders who participated in the vocabulary intervention, which consisted of learning vocabulary through semantic mapping compared to fifth graders who did not participate in the vocabulary intervention. For the purposes of this study, vocabulary acquisition was based upon the comparison of students' scores on a pretest compared to their score on the posttest on the Open Court Reading Diagnostic Assessment (Levels 4-6). This study used a quasi-experimental pretest-posttest research design with students receiving the semantic mapping instruction serving as the experimental group and those not receiving the instruction serving as the control group. The vocabulary intervention instruction (i.e. semantic mapping) served as the independent variable and the students' vocabulary acquisition as measured by the vocabulary assessment served as the dependent variable. The results are reported in Table I and Figure A on the following page.
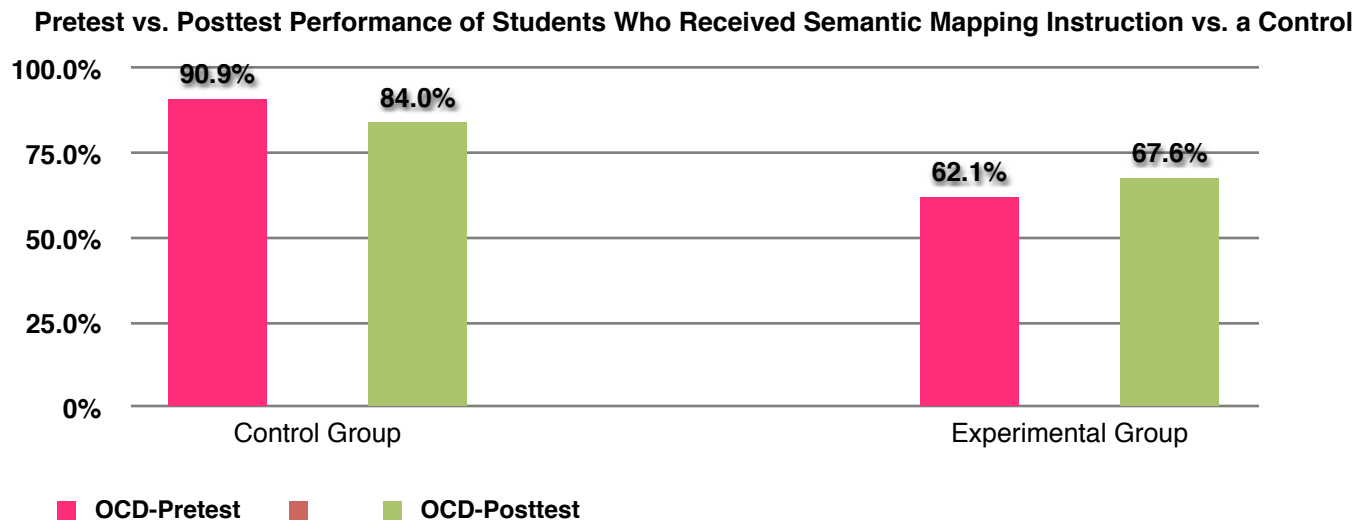
Table I

A Comparison of the Pretest vs. Posttest Performance on the Open Court Diagnostic

Assessment

	Control Group			Semantic Mapping Treatment Group		
	OCD Pretest	OCD Posttest	Difference	OCD Pretest	OCD Posttest	Difference
Mean	90.9	84.0	–6.9	62.1	67.6	5.5
S.D.	6.3	8.6	15.1	10.5	12.9	10.

among Students Receiving Semantic Mapping Instruction vs. a Control Group

Figure A

Pretest vs. Posttest Performance of Students Who Received Semantic Mapping Instruction vs. a Control

The results reported in Table I and in Figure A suggest a number of things. The control group's performance was substantially higher than that of the experimental group; however, because this study was investigating the amount of "growth" between the two groups from their pretest to their posttest performance, these differences were expected to have a minimal effect upon the analysis. It is also important to note that

while there was a 5.5 percentage point increase in performance on the Open Court

Diagnostic Assessment among students who received semantic mapping instruction,

there was a 6.9 percentage point decline among students in the control group. This

decline in performance by the control group will be addressed further in Chapter V.

An analysis of the variability in scores, expressed in standard deviation units, in

Table I between the students receiving semantic mapping instruction and the control

group indicates that the range of performance among students receiving semantic

mapping instruction was substantially greater than the control group.

In order to determine whether the above-mentioned differences were statistically

significant, an independent groups t test procedure was used. The results (t=8.26, df =

18, p < .05) suggest that the difference in performance between the students receiving

semantic mapping instruction and the control group was statistically significant. Hence,

the null hypothesis that there was no statistically significant difference in the vocabulary

acquisition of fifth graders who participated in semantic mapping instruction compared

to fifth graders who did not participate in this intervention should be rejected.

A second method of assessing students' vocabulary acquisition growth both prior

to and after the implementation of semantic mapping instruction involved the use of a

teacher-developed rating scale (i.e. TRS). The results are reported below in Table

II.

Table II

A Comparison of the Number of Teachers' Pretest vs. Posttest Ratings of the Vocabulary

Teacher Ratings	Control Group		Semantic Mapping Group	
	Rating #1	Rating #2	Rating #1	Rating #2
	# of Students	# of Students	# of Students	# of Students
Below Average (1)	1	1	7	6
Average (2)	8	7	3	4
Above Average (3)	1	2	0	0

Acquisition of Students in the Control Group versus the Experimental Group

The results reported in Table II suggests that there was minimal change in vocabulary acquisition among students in both the Control Group as well as the group that received semantic mapping instruction. In both groups, there was only one change in teachers' evaluations of students' vocabulary acquisition. For the Control Group, one student was evaluated as having improved from an average to an above average level, while in the semantic mapping group, one student was evaluated as having improved from a below average to an average level. It is important to note, however, that these results do reflect several potential problems of internal validity that should be considered as part of the analysis of this data.

In summary, the above analysis of the pretest versus posttest data from the Open Court Diagnostic assessment does suggest that the null hypothesis should be rejected. As indicated above, the results from the Teacher Rating Scale on the other hand, do have several potential problems of internal validity relating to both the development of the scale and its administration are discussed in greater detail in Chapter V.

I

Chapter V

DISCUSSION

The results of this research study determined that there was no statistically significant difference in the vocabulary acquisition of fifth graders who participated in semantic mapping instruction compared to fifth graders who did not participate in this intervention. Hence, the null hypothesis is rejected.

Implications of Your Results

The results of this research study imply that semantic mapping is an effective way to teach vocabulary. The data collected by the researcher indicated that the difference in performance between the students receiving semantic mapping instruction and the control group was statistically significant. It is the opinion of the researcher that the results of the OCD carries more weight as it pertains to the implications of the results of the study because of the validity of the TRS.

Theoretical Consequences

The results of this research study suggest a variety of theoretical consequences for vocabulary instruction. Effective vocabulary instruction has three essential elements - integration, meaningful use, and repetition (Smith, 2008). All three of these elements are found in semantic mapping. During the semantic mapping instruction, students integrated the meaning of the new vocabulary words into their Language Arts lesson as well as discussing how the words could be integrated into their daily lives. Semantic

mapping also had the students use their new vocabulary in a meaningful way, answering questions about the words and how the word could be applied to real life situations. The only element that was missing from this instruction was repetition. Students review words on occasion, but not to the point where it could be considered to be repetition. This research study implies that if students develop a strong understanding of the word through integration and meaningful use, repetition may not be essential in learning and applying the new vocabulary.

Semantic mapping included decontextualized instruction of the vocabulary words. The words were not taught as part of a text, but as individual words (Silverman, 2007). This gave students the opportunity to analyze the vocabulary words as they are related to semantics and meaning. It also allowed students to compare and contrast words, and to respond to words as they are used in a variety of contexts. This type of instruction is the opposite of contextualized instruction, which has students learn new vocabulary as they apply to a certain text.

Another theory that is challenged by the research study is that students learn vocabulary effectively through read-alouds. This type of instruction is more contextualized, having the students listen to a story and determine the meaning of new vocabulary as they relate to the text (Silverman, 2007). This does not allow students to delve deeper into the meaning of words and how they apply outside of the story.

Threats to Validity

In this research study, internal validity refers to the to the degree to which observed differences of the students' vocabulary acquisition were a result of the

semantic mapping intervention. There were multiple threats to the internal validity of this study.

One possible threat to the internal validity of this research study was the routine in which students were accustomed to learning vocabulary. Previously in the school year, vocabulary was taught according to a very strict routine that involved mostly class discussion of definitions. The change in vocabulary routine could have affected the students' ability to learn vocabulary in a different way. A possible solution to this problem would be to teach semantic mapping starting at the beginning of the school year. This would allow students to become used to that type of vocabulary instruction that may in turn result in a greater vocabulary acquisition.

Statistical regression also threatened the validity of this research study. Students who were chosen to participate in the intervention were identified based on low scores on county benchmark assessments. The slight increases in students' pretest versus posttest mean performance on the Open Court Diagnostic Reading assessment and the Teacher Rating Scale, might be accounted for by the effects of statistical regression.

Another potential problem of internal validity was the limited amount of time afforded to the intervention, both in the time the intervention was taught daily and the longevity of the intervention. The semantic mapping intervention was taught for twenty minutes per day over a four-week period. It was found by the researcher that twenty minutes per day was not enough time to sufficiently teach vocabulary words based on semantic mapping. To introduce the vocabulary word and create a semantic map about it often meant that only two to three words could be discussed in one intervention period. It was also found that to teach the intervention for only four weeks was also not

enough time to cover the assigned amount of vocabulary words. A possible solution to this problem would be to allow more time for the intervention and to group vocabulary words that would have similar semantic maps so that one map can cover more than one vocabulary word.

In regards to the teacher rating scale, there is also a concern about validity. Because of the brief time allotted for this research study, the scale that was created by the researcher was not field-tested. Also, the rating scale was limited in its ability to give an accurate picture of the students' vocabulary. The scale was from 1-3, which did not allow room for growth to be sufficiently documented by the raters. There are multiple solutions to creating a more valid and reliable rating scale. The researcher could have the rating scale field tested by having other teachers use the scale to see how effective and accurate the scale is. The rating scale could also range from 1 to 5, allowing more options to the rater would offer more of an opportunity to show student growth.

This research study's internal validity could also have been affected by the researcher. When completing the teacher rating scale, the experimenter may have inaccurately rated students' vocabulary based on whether the students were part of the control or experimental group. This could be a result of teacher bias or inter rater reliability. A possible solution to this problem would be to use a more objective rating scale or to have another teacher complete the rating of the students' vocabulary.

Lastly, the time of year in which the semantic mapping intervention was taught may have affected the internal validity of this study. The intervention was taught in the month of March when Maryland State Assessments were being administered. This was a difficult time to teach the intervention for a multitude of reasons. The students'

schedules were disrupted due the testing and some of the students in the intervention group would miss the semantic mapping instruction due to an alternate testing schedule. The state testing also affected the students' focus and attentiveness to the intervention instruction. Having spent most of the morning testing, students had a difficult time attending to the intervention in the afternoon due to the amount of time they had to focus on the testing. A possible solution to this problem would be to do the intervention from the beginning of the year so that a routine could be established.

In this research study, external validity refers to the ability to generalize the results of the study to students outside the experimental study.

One possible threat to the external validity of this research study is selection-treatment interaction. Because the students in the study were identified as performing at a basic or low proficiency level, it was possible that the students performing at a basic level reacted differently to the intervention than the other low performing students. Thus, the effect of the intervention may only be valid for low performing students, or only students who are performing at a basic level. A possible solution to this problem would be to replicate the study with students on all levels of ability, and to conduct the analysis of the data separately for each level of student performance. This type of sample would significantly increase the generalization of the results to larger student populations.

The size of the experimental and control group could also affect the external validity of this research study. Because the groups only consisted of 10 students, it is difficult to generalize the results of this study to the larger population. A small group also

means a small percentage of a demographic. This always makes is difficult to generalize to a larger population.

Another circumstance that may affect the external validity of the study could be the specificity of the variables. The researcher's independent variable was the vocabulary instruction intervention, which consisted of semantic mapping of vocabulary. Semantic mapping can be done in a variety of ways. Because there are multiple ways to create semantic maps, the independent variable would need to be more narrowly defined. A possible solution to this problem would involve being more specific in the definitions about the type of semantic mapping used, what the maps will look like, and what information will be discussed and included on the semantic map.

Implications for Future Research

This research study implies that there should be future research as it pertains to semantic mapping instruction. As more research is done, more attention will be drawn to the issue of low vocabulary and how vocabulary can be more effectively taught in today's classrooms.

Conclusions/Summary

In conclusion, this research study has brought to light the important of vocabulary instruction and provided valuable information as to how vocabulary could be taught in classroom. Should semantic mapping instruction be used early in a students' educational career, the student will have a better understanding of vocabulary and have

a more vast vocabulary to access when reading and writing. As a result of this more

advanced vocabulary, students will comprehend more deeply.

REFERENCES

Baker, S., Chard, D., Fien, H., Haria, P., Park, Y., Santoro, L., & Williams, S. (2011). Enhancing Teacher Read Alouds With Small-Group Vocabulary Instruction for Students With Low Vocabulary in First-Grade Classrooms. School Psychology Review, 40(2), 307-318.

Baugh, N., Brabham, E., Baskets, C., Henderson, S. C., Paleologos, T.(2012). Flooding Vocabulary Gaps to Accelerate Word Learning. Reading Teacher 65(8), 523-533.

Beck, I. G. & McKeown, M. G. (2007). Increasing Young Low-Income Children's Oral Vocabulary Repertoires through Rich and Focused Instruction. Elementary School Journal, 107(3), 251-271

Blumenfeld, H. K., Kaushanskaya, M., & Marian, V. (2011). The relationship between vocabulary and short-term memory measures in monolingual and bilingual speakers.   International Journal Of Bilingualism, 15(4), 408-425. doi: 10.1177/136700691140320

Building Vocabulary of Young Children. (2008). Gifted Child Today, 31(4), 8.

Clegg, J., Spencer, S., & Stackhouse, J. (2012). Language and disadvantage: a

comparison of the language abilities of adolescents from two different

socioeconomic areas. International Journal Of Language & Communication

Disorders, 47(3), 274-284. doi:10.1111/j.1460-6984.2011.00104.x

Dixon-Krauss, L. (2002). Using literature as a context for teaching vocabulary. Journal

of Adolescent and Adult Literacy, 45(4), 310-318.

Kamil, M., Mosethal, P., & Pearson, D. (2000). Handbook of reading research. (2nd ed.,

Vol. 3). Mahwah, NJ: Lawrence Ehrlbaum Associates.

Kaushanskaya, M., Blumenfeld, H. K., & Marian, V. (2011). The relationship between

vocabulary and short-term memory measures in monolingual and bilingual

speakers. International Journal Of Bilingualism, 15(4), 408-425.

doi:10.1177/136700691140320

Nelson, J. R., & Stage, S. (2007). Forstering development of vocabulary knowledge and

reading comprehension through contextually-based multiple meaning

vocabulary instruction. Education and Treatment of Children, 30(1), 1-22.

Neuman, S. B., & Roskos, K. (2012). More than teachable moments: Enhancing oral

vocabulary instruction in your classroom. The Reading Teacher, 66(1), 63-67.

Osborn, J., Albruster, B., & Lehr, F. National Reading Panel, (2001). Put reading first:

 the building blocks for teaching children how to readNational Institute of Child

 Health and Human Development

Silverman, R. (2007). A Comparison of Three Methods of Vocabulary Instruction during

 Read- Alouds in Kindergarten. Elementary School Journal, 108(2), 97-113.

Smith, T. B. (2008). Teaching Vocabulary Expeditiously: Three Keys to Improving

 Vocabulary Instruction. English Journal, 97(4), 20-25