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# How Vocabulary Word Selection, Instructional Strategies, And Assessments Affect Student Retention Of Newly Learned Words

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HOW VOCABULARY WORD SELECTION, INSTRUCTIONAL STRATEGIES,  
AND ASSESSMENTS AFFECT STUDENT RETENTION OF NEWLY LEARNED  
WORDS

By

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A capstone submitted in partial fulfillment of the requirements for the degree of  
Master of Arts in Literacy Education.

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This capstone is dedicated to my family who supported me in my dream to further the educational lives of students that cross my path. The time spent on this study will enhance the learning of students for many years to come.

## TABLE OF CONTENTS

LIST OF FIGURES.....	vi
LIST OF TABLES.....	vii
CHAPTER ONE: Introduction.....	1
Personal Experiences.....	2
Professional Experiences.....	3
Rationale.....	6
CHAPTER TWO: Literature Review.....	9
Selection of Words.....	9
Balanced Reading Program.....	11
Three Tiered System.....	13
Roots.....	15
Instructional Strategies.....	16
STAR.....	19
Sentence Writing.....	20
Word Questioning.....	20
Graphic Organizers.....	20
Clue Web.....	21
Concept Wheel/Circle.....	21
Semantic Mapping.....	22
Webbing.....	22
Semantic Sorting.....	22
Multiple Exposures.....	23
Word Games.....	23
Word Theater.....	24

Charades.....	25
Assessment.....	25
Pre/Post Assessment.....	26
Assessment Questions.....	26
Assessment Dimensions.....	28
CHAPTER THREE: Methods.....	30
Research Paradigm and Method.....	30
Quantitative Method.....	31
Qualitative Method.....	31
Convergent Parallel Mixed Methods Design.....	32
Setting.....	32
Participants.....	33
Human Subject Research.....	34
Methods.....	34
Vocabulary Inventory.....	35
Pre and Post Assessment.....	35
Control and Experiment Groups.....	35
Bi-Weekly Assessment.....	37
Tools.....	37
Vocabulary Inventory.....	38
Pre and Post Assessment.....	38
Bi-Weekly Assessment.....	38
Data Analysis.....	39
CHAPTER FOUR: Results.....	40

Vocabulary Inventory.....	40
Prior Experiences.....	41
Unknown Words.....	42
This Year.....	44
Word Selection.....	44
Instruction.....	45
Experimental Group.....	45
Control Group.....	46
Pre and Post Assessment.....	46
Pre Assessment.....	47
Post Assessment.....	48
Bi-Weekly Assessment.....	49
Format.....	49
Data.....	49
CHAPTER FIVE: Conclusion.....	52
Connections to Research.....	52
Implications.....	53
Limitations.....	54
Future Considerations.....	54
APPENDICES.....	57
Appendix A.....	57
Appendix B.....	59
Appendix C.....	63
BIBLIOGRPAHY.....	68

## LIST OF FIGURES

Figure 1. Student responses to statements about prior vocabulary instruction.....	42
Figure 2. Student responses to statements about unknown words.....	43

LIST OF TABLES

Table 1. Pre and Post Assessment Results.....48

Table 2. Experimental vs. Control Group Bi-Weekly Results.....49



## CHAPTER ONE

### Introduction

#### Introduction

The meaning of words may come easily to us as adults, however, how do we grow this knowledge of the meanings of words as children? It is all about exposure; children are exposed to thousands of words annually. Rupley, Nichols, Mraz, and Blair (2012) state, “Children are exposed to approximately 3,000 new words a year in their reading” (Rupley, Nichols, Mraz, and Blair, 2012). It would be an exaggeration to think that all 3,000 words students are exposed to each year be retained with an exact definition throughout their lives. Teachers want to ensure that students are learning as many new words a year as possible, but are learning them at a deeper context than just hearing words. Many teachers struggle with strategies; what is the best way to teach students vocabulary? Berne & Blachowicz (2009) state, “Classroom teachers suggest to us that they aren’t confident about best practice in vocabulary instruction, and at times they don’t know where to begin to form and instructional emphasis on word learning or to change one that they feel is ineffective”(p. 315). Leading students through their school years by providing them with strong vocabulary instruction may ensure success in their future. In considering the importance of vocabulary development for students, I find myself asking about instructional practices, specifically, *How does the selection of vocabulary words, instruction, and assessment affect the retention of newly learned vocabulary?*

#### Goal

The goal in researching this question is to provide research-based instruction to middle school students to enable them to be more successful in their remaining school years and into adulthood. Vocabulary plays a role in many vital components of

a well-rounded education. This part of a language arts classroom is important because it leads to growth with reading and writing alike. According to Rupley, Logan, and Nichols (2002), “The author’s and reader’s vocabulary and experiences are woven together to form the fabric of learning, confirming, reasoning, experiencing, enjoying and imagining” (p. 114). Increasing the quality of vocabulary instruction students receive can enhance their understanding as well as their ability to grasp the concepts of newly introduced words in various settings. During the process of this research I will explore techniques in teaching vocabulary to help increase the vocabulary development of students at the middle school level.

As teachers, we are responsible for providing vocabulary instruction to students; as they rely on our expertise to enrich their educational careers. However, when it comes to vocabulary instruction, the argument always arises about the words we teach, how we teach them, and how many we teach at a time. Word parts, including prefixes, suffixes, and root words, have been a part of our curriculum, but we have been given very little direction on how to teach it. Stebick and Nichols (2014) make the point clear in stating, “Introducing students to word parts is not enough to lead to increased growth in vocabulary and comprehension” (p. 41). Giving students a list of words and asking them to memorize them is not best practice for all of our students. Students learn differently, thus there is no one-way of teaching that will meet all the needs of every student.

### Personal Experiences

Growing up, I do not remember having much explicit vocabulary instruction until I entered middle school, where we were given our vocabulary workbook in which we completed a lesson each week. We would focus on a set of words and do different workbook pages throughout the week to prepare for our tests. We did not do

classroom activities with these words, and I do remember it being a boring task to complete workbook page after workbook page. Each week we would take a test on the words and then never touch them again. We were simply memorizing the words to pass the test, and then the list would be forgotten and a new one would move into place. Retaining the meanings or dissecting other words in order to figure out the meanings did not happen.

While reading independently as a child, it was not very often that I would encounter words I was unaware of because I was a strong reader. Reading came very easily to me, so the fact that I did not encounter unknown words isn't a surprise. However, throughout high school and into college, I became challenged by vocabulary in subject areas such as math and science. The curriculum started to add in more difficult vocabulary and I struggled immensely. Most of my life, I had an easy time with reading and vocabulary, but when the work became more difficult, so did the words. I would have to ask for assistance, usually from the teachers because my parents, as wonderful as they are, were not wordsmiths. The teachers led me to a dictionary or online to discover the meaning behind the word. There are times, however, where words need to be divided in a deeper fashion, allowing a reader to make sense of them and to retain them in long-term memory. As an adult, I find myself looking up words out of curiosity in relation to their deeper meanings.

### Professional Experience

I have been a licensed teacher for ten years. Throughout this time I have been a short-term substitute, a long-term substitute, and a contracted licensed teacher. My license is K-8, and based on my early experiences, I had always anticipated a younger elementary position. I began my middle school journey as a long-term substitute teacher where I fell in love with the middle school age group. In my current role as a

sixth grade teacher I am happy to say that I have found my calling. Since 2009, I have been teaching in the middle school setting.

Long-Term Experience. In the seven years that I have taught at the middle school level, there has been a great deal of controversy surrounding the proper way to teach vocabulary and what words we should be teaching. Vocabulary has been a part of our curriculum, and instruction has been highly scripted. In the first few years I worked in the middle level, students were given no more than ten new words a unit that they would encounter in their reading. They did not engage daily with the vocabulary words throughout the unit prior to testing on them at the end. It was very frustrating to see such little follow-through in the learning process. I worked to add in activities for students in order to be more successful on the test. Throughout the time I was doing this, I began to think about what words are essential to our students. In what ways do we make vocabulary development exciting for students?

#### Professional Experience

Current Experiences. I am now in a position where I teach language arts classes to sixth graders at the high, average, and low ability levels; differentiation in instruction is essential to student success. I began this position with a curriculum that had already been chosen and used for years plus an additional piece that focuses on prefixes and suffixes. Students are given at least 15 words a week to memorize and “experience” through work in vocabulary packets. I am not a strong believer in handing out packets and expecting students to complete them. I know that they will likely not get it done at home, and two, they are not going to learn the words as deeply as I would like just by memorizing them for the test on Friday. There are students that struggle with reading, and therefore, many of them struggle with vocabulary as well. Even average readers struggle when it comes to such vocabulary

practices. It is truly no surprise to me that many students get lower grades in my class due to incomplete packets and low vocabulary test scores.

There are so many differing opinions in our department about the vocabulary words and how to teach them. Vocabulary is an integral part of the language arts curriculum; it leads to success with reading, writing, and speaking (Beach, Sanchez, Flynn, and O'Connor, 2015). It is our duty, as teachers, to make sure that our students are getting the proper, enriching activities to increase vocabulary as they continue throughout middle school. Whether students are of high, average, or low ability, they should still be taught vocabulary in a way that will allow them to gain the understanding of the meaning of the word in order to remember it for longer than week, a month or a year. With the proper teaching of vocabulary, the words will remain with the students for life. We need to teach them the skills to make connections and decipher what new words mean based on what they already know about the words.

Thus, I dug deeper into the question *How does the selection of vocabulary words, instruction, and assessment affect the retention of newly learned vocabulary?* Prior to teaching language arts students, I did not think very much about specific vocabulary instruction because most of it was done for me in the scripted program. After reviewing data on test scores and vocabulary, I feel the need to explore what the best practice in teaching vocabulary actually is. Phillips, Foote, and Harper (2008) said it perfectly how students need to be engaged in the learning of new words, "A student-centered focus on learning would counter this response suggesting that time is wasted when students are not actively and mentally engaged in language study," (p. 62) when told that teachers use the copying definitions method to save time and give them more time for other content material. I feel the need to

provide students with a solid foundation in vocabulary; therefore, doing what I am currently doing does not make me confident about this. This study will lead to a better understanding of ways to enhance vocabulary comprehension.

The lack of ability to teach vocabulary is, in no way, the fault of the teachers in the building. Instead, it comes from a lack of time to research the best practices in vocabulary instruction. In completing this study, I will be able to enrich vocabulary instruction and provide support in ways that increases the vocabulary development of our middle school students. Thinking on a larger scale, outside of the language arts department, the vocabulary instruction techniques that are discovered through my research can be carried over into other subject areas by teachers and by students as well. The students will be learning new skills to increase their vocabulary and will be able to apply it to their other courses throughout the school day.

Vocabulary instruction is something that many teachers may feel uncertain about. They may struggle with knowing how to teach it in a way that the greatest amount of students will take away lifelong vocabulary skills, with knowing which words or word parts to teach, with how many words to teach at a time, and how to connect the words so that what they learn about vocabulary can be connected to other courses. I have experienced differing methods of vocabulary instruction throughout my childhood and into adulthood. In my professional practice, I have been given scripted material that included vocabulary in small amounts, but now that I am in a position with regular education students, it has been made clear that changes need to be made to better the education of our middle school students. The big question is, How?

### Rationale

The significance of this study may stem from the fact that we do not have a clear direction on what words to teach and how to properly teach vocabulary. In completing this study, I will discover how and why teachers teach vocabulary and also what research shows about best practice in vocabulary instruction. This information will enhance the education of my students. They will gain a deeper understanding of the words that I am teaching as well as skills they need to know throughout life.

My goal as an educator is to make sure they are learning everything they need to know throughout the year to be as successful as possible on their tests at the end of the school year. In addition, I also want to ensure that they are learning the lifelong skills needed in order to discover the meaning of unknown words. These lifelong skills will also benefit with better test score. Having a deep understanding of words is important to me because when students take their standardized tests they are tested on vocabulary. It is my duty as their teacher to be teaching them to the best of my ability. Deepening the comprehension of vocabulary will enhance my ability to teach them the vocabulary they need to know in a way that brings about the greatest amount of learning.

### Summary

In exploring the question; *How does the selection of vocabulary words, instruction, and assessment affect the retention of newly learned vocabulary?* I will be able to properly instruct my students and also give support to my colleagues regarding the best practices in vocabulary instruction.

Throughout this capstone, I will explore what other teachers have found to work best in vocabulary instruction. I will utilize vocabulary techniques with students of my own, helping me to determine what the best ways are to select vocabulary

words and give instruction to make sure that retention is achieved on their assessment. The level of success on their assessments will help in determining the success of the instruction. I notated the results of my findings and summarize the connection between the research of past literature and my own findings.

Chapter Two will look at what the experts in vocabulary instruction, including Marzano (2009), Graves (2007), Fisher (2015), Frey (2015), have to say about vocabulary instruction at the middle grade levels. I will explore how to select words for students of the middle grades so that they are being taught those that best suit their needs. There are varying opinions about which words, strategies, and assessments to teach to students, and Chapter Two will explain the various benefits that each display.



## CHAPTER TWO

### Literature Review

#### Overview

This chapter will examine the various pieces of literature that have been written on the topic of vocabulary. It will centralize around the capstone question: *How does the selection of vocabulary words, instruction, and assessment affect the retention of newly learned vocabulary?* After reviewing the literature, three specific areas of vocabulary instruction will be analyzed and discussed. These areas include: 1) selecting vocabulary words; 2) instruction and instructional strategies that are used to teach new vocabulary words; and 3) various ways to assess students' vocabulary knowledge. In analyzing the three different sections of a well-rounded vocabulary curriculum, information will be presented showing the amount of retention students are able to make with the new words that they are learning over time.

#### Selection of Words

Vocabulary word selection varies from teacher to teacher, school-to-school, district-to-district, and state-to-state. Knowing what words to select and how to teach them can be difficult. There is not one answer that has been deemed as the "right" answer to all teachers' questions about vocabulary word selection. There have been experts that support one way of choosing vocabulary over another. In many cases, however, it is still left up to the classroom teacher as to what words will be taught and how to ensure a concrete foundation is gained.

Studies have shown little growth in one method of selecting words - one which many schools still use today - the method of teaching from a different list each week. Selecting vocabulary words is challenging, but yet a very important

component to the vocabulary curriculum. Brown, Collins, & DuGuild (1989) state that, “Research on situated cognition shows that students learning vocabulary from lists unconnected to an immediate context where the words will be used tend to mislearn the words” (as cited in Wilhelm, 2013, p. 49). Although this may be the easiest and most readily supplied curriculum, it is not the best practice for teaching vocabulary. Knowing this, teachers can move forward and make wiser decisions on how to select the vocabulary that they will instruct and assess with their students. Fisher and Frey (2014) state that, “They also need instruction with specific words that will unlock complex texts. And that starts with selecting the right words for instruction; words that students are not likely to learn while reading” (p. 596). The more students read the more they benefit; it is essential that students are reading a variety of books. This holds true for vocabulary as well; a strong reader will more than likely be comfortable with new vocabulary because they can make connections more easily.

Reading and vocabulary go hand-in-hand. When students are strong readers and enjoy reading independently, their vocabulary acquisition is typically higher (Allen, 2006). These are also students that are able to pick up on new words and definitions rather quickly because they understand how to interpret the definition by examining the surrounding context and implementing other word part strategies. They may not know the exact, dictionary definition, but they are aware of a general meaning of the word.

One important component of enhancing vocabulary retention is increasing the amount that students are reading. According to what Fisher and Frey (2014) say in accordance to what Mason, Stahl, Au, and Herman (2003) estimate students who read an hour a day, five days a week will raise their vocabulary knowledge by 2,250 words

a year. Students should be reading outside of the classroom to help increase the amount of time they are reading daily. Ideally, students will read outside of school for at least 20 minutes each day. It is important that students are motivated to read, not just during school, but outside of school as well. Reading outside of school creates stronger vocabulary knowledge, but it is not the only solution to stronger word retention. Harmon (2002) noted, “Getting students to read more will certainly help them learn new words and new concepts, but they also need to develop strategy awareness and acquire specific strategic word learning abilities” (as cited by Bintz, 2011, p. 47). The upcoming sections on research will demonstrate ways to effectively choose words to increase students’ vocabulary in the classroom.

In order to select vocabulary words effectively, it is important to know the two different types of knowledge we want them to gain. There are two types of knowledge students can gain from learning new vocabulary words; definitional knowledge and contextual knowledge.

Contextual knowledge is the meaning students get from reading context within the words that it is included in it. This may be a variety of sources including reading passages, videos, discussions, photos, and so on. However, if students are unable to figure out what these new words mean it may not make a difference. Students describe these words by making a stronger connection and explaining how the words relate. Strong readers are successful with this because they are able to use the context surrounding the word, picture, video, etc. and figure out the deeper meaning of the word. The first method of selecting words is by choosing words within assigned reading passages.

Teaching in a Balanced Reading Program. When students are taught words that coincide with a reading program they may be able to grasp the concept of the new

words through instruction on the reading passage. This method encourages students to learn new words and actively process what their definitions are. Students should be taught how to use context clues to decipher the meanings of words. According to Rupley, Nichols, Mraz, and Blair (2012), “Fukkink, and de Glopper (1998) found that context clue instruction appeared to be more effective than the other vocabulary instructional types they identified (cloze instruction, general strategies, definitions, and practice only)” (pp. 303-304). Using examples and in class text can help a teacher to educate her students about this strategy. Good use of scaffolding and modeling will increase the engagement of the student population as well as the retention of words.

Providing students with text and not giving them the support needed to learn the skills of using the context to define words will not show growth. Students need to be taught the skills through a scaffold method in order to achieve the desired results. Teachers first need to start with a whole group and model the process with a shared piece of text. Once the teacher feels the students have a strong understanding of how it works, the teacher can begin to pull back by allowing students to work in a small group or with a partner. From there the instruction can be gradually released until students are able to successfully complete this on their own. The teacher has identified words from the text that students will be working with.

Selection of words from the reading passage should include a small amount of words with a focus of going deeper with fewer words. When there are too many words for students to learn, the amount of details they learn about each word declines. Thus, choose between eight and twelve words, and go in depth with each of those words. Teachers should point out and discuss the words prior to and during

reading. The selection should focus on readability for the specific group of students, their needs, and the specific vocabulary used in the story.

Once students have read a passage with newly learned words, they should have an active class discussion around the words and text of the passage. This discussion could be whole group, small group, and partner conversations. Discussions of the words will help the students to explore the real meaning behind the words, gain a deeper understanding of the word and how to appropriately use the word. When students are using the words in conversation and using them correctly, they are making connections to other parts outside of the story and single vocabulary word. Kelley, Lesaux, Kieffer, and Faller (2010) state “Through playing with and talking about words, students are more likely to become attached to the words in print and willing to work harder to understand unknown words they encounter” (p. 11). This helps students to think more deeply about the word. Making connections also helps students retain the new words that they are learning. When researchers look deeper into vocabulary instruction, there is a focus on different levels of words in the three tiers.

The Three Tiered System. In the three-tiered system (Beck and McKeown, 1985) words are broken down into three tiers. Tier One terms refer to words that are simple and basic to many students. These words do not necessarily need to be taught to students, they are already known. Tier Two words are words that will not incidentally be learned by students. These words will need to be taught to students. Tier Three words are subject-specific words. These words will be specific to each discipline and need to be taught through direct instruction.

When it comes to sixth grade, Tier One terms typically do not need to be taught to most students. The term “most students” refers to those that have adequate

support at home and whose primary language is English. . Tier One instruction will be necessary for English language learners as well as those that struggle with reading. This is a piece that will need to be considered based upon each individual classroom situation. It will be the teacher that needs to decide if Tier One terms need to be included in vocabulary instruction and curriculum.

According to Marzano (2012), “Tier Two terms are important to a general understanding of the English language but are not used frequently enough that teachers can assume they are known to most students from English-speaking homes” (p. 33). There are 5,162 terms that have been determined to be Tier Two words. These words for sixth grade are similar to words like access, context, elaborate, etc. Teachers can use students’ reading passages to select words that would fall under the Tier Two category. They should ask themselves if it is a word that students would just know, or if they need to provide instruction to support students’ understanding of the word.

Tier Three words occur very infrequently and are specific to each subject. There are 7,923 words that have been termed Tier Three words across all subject areas. Tier Three terms are words that would apply specifically to the subject area that is being taught and may also connect with another subject as well. Words such as predict, compare, and contrast fall under the Tier Three word listing.

Tier Two and Tier Three words are known as “academic vocabulary” (Marzano, 2012). These are words that students should be learning in order to be successful in their academic career. According to Beach, Sanchez, Flynn, and O’Connor (2015), “Both types of words occur frequently in academic texts; however, their usefulness varies depending on the desired outcome of instruction” (p. 37).

Selecting terms to teach students in each of the three tiers comes next. When selecting, there is rarely a need to select Tier One words, unless there are English language learners in the class. When selecting Tier Two terms, select words that will occur in the context of what is currently going on in the classroom. Selecting words in clusters should be considered. When selecting words within a cluster, connections can be made by the students to deepen understanding. Tier Three words should be selected based on subject specific necessity. Depending on the subject area, words should be selected to meet the needs of their specific subject and academic area.

Roots. Another method for selecting words is based on root words. This practice not only increases vocabulary of average students, but it is also beneficial for struggling readers. Including words that belong to morphological families increases students' ability to break down words and make new meaning of unknown words (Kelley, Lesaux, Kieffer, Faller, 2010). Morphological families would include words such as creation, creative, creator, recreate, etc. When referring to an elementary study, Ebbers and Denton (2008) made the following observation;

Generally speaking, the students read individual words more quickly and accurately if the words belonged to a large morphological family and that was even more likely to be true if the words were clearly related, as in govern and governmental (p.93).

The methods that teachers choose to select their words have one thing in common; the words need to relate to the students' lives. It must relate to the reading that they are doing in class in some form to make the vocabulary content stronger and provide connections to real life. When teachers select words, they are selecting pieces that students will make connections to and can work with in several different areas

such as reading, writing, speaking, and listening. All three of the selection methods discussed provide support in these areas.

Selecting words with a morphological family can be combined with choosing words from the tiered framework for selecting vocabulary words, just like selecting words from a tiered framework can be combined with teaching vocabulary as part of a balanced reading program. Each of these specific frameworks can work together and embedded the information from each other. It is clear that providing students a list of words each week is not the best practice when it comes to selecting vocabulary words. Allen (2006) states,

“The point is not to simply distribute the list and have students memorize definitions, but instead to consider the list and decide which words are a part of the academic vocabulary of your school and then make sure your students- especially second language learners- know what these words mean” (p. 18).

It is important to select appropriate words for students to learn, but once words are selected it is even more essential that teachers are giving students a chance to grow academically, and increase their vocabulary knowledge. The next section will focus on instruction and strategies for teaching vocabulary words to increase understanding and retention.

### Instruction and Strategies

Once teachers have selected words to teach, they need to streamline their focus on instruction. The way vocabulary is taught is essential to the acquiring of new vocabulary. The instructional strategies that teachers use should have a lasting effect on the retention of words students learn. Whether the words are definitional or contextual, instruction can remain the same. The strategies that are employed will work with any new vocabulary. Bintz (2011) makes the following claim about words



learned through reading, “Teachers can help students improve vocabulary by providing instruction that helps them see the value and relevance of word study and allows them to study interesting and important words that come from texts they read in the classroom” (p. 47).

Blachowicz and Fisher (2004) have five evidenced-based guidelines to follow for teaching vocabulary, as cited by Phillips, Foote, and Harper (2008). These five guidelines include building a word rich environment of both incidental and intentional words, teachers helping students become word learners, the effective use of strategies to model word learning, teachers providing explicit instruction, and matching assessment tools that connected instruction and assessment.

Beach, Sanchez, Flynn, and O’Connor (2015) discussed one such method for vocabulary instruction. This method also included five steps:

1. select words
2. introduce words
3. discuss
4. play
5. write

Select words. In step one, you are choosing a certain amount of Tier Two words to teach. The amount of words to teach is debatable and dependent upon the level of students you are teaching. It is clear, however, that no more than twelve words should be taught at one time. Words can be selected from word lists or from instructional pieces that will be used during the time of vocabulary study, keeping in mind the Tier Two and Tier Three word types.

Introduce words. During step two, words are introduced by providing definition, explanation, and synonyms. The way that the teacher explains the word and gives the definition is essential. Looking words up or giving a large, abstract answer is not beneficial to the students. According to Beach, Sanchez, Flynn, and

O'Connor (2015), "The purpose of teaching synonyms and definitions is not to fully explain the word meaning, but rather to provide a gist of the central word meaning to help with recall"(p. 40). Step three is presenting each of the words in differing contexts. At the start, it should be pretty evident what the meaning is in context and toward the end of the week it can become more embedded (Beach, Sanchez, Flynn, and O'Connor, 2015). At this point, students should be discussing the word in different contexts as well.

Discuss. Discussion of words in large and small groups increases their understanding of the word. In step four, teachers should use word play to increase student engagement.

Play. During word play students are encouraged to justify their answers and reasons. This creates higher order thinking that will increase student success.

Write. Step five includes opportunities for students to write and use the new words. Using different approaches to writing will enhance student success. When a lower ability student is struggling, a sentence starter may increase the likelihood of them being successful. As they gain knowledge, the support can be scaled back and the students' authentic work will show through (Beach, Sanchez, Flynn, and O'Connor, 2015).

Both of these methods include five different steps or pieces. They are similar in the sense that they include strategies such as discussion and word play. By selecting appropriate words and introducing them in a way that is conducive to student learning, teachers can create a word-rich environment. Meshing these two methods together could create a stronger connection of words to students. It is important, though, that thought is put into each step of the process, and that words and

strategies are selected to appropriately match the reason for instruction to student learning and assessment.

Strategies are used to enhance learning for students. The following are specific strategies that can be put into place in the classroom to increase vocabulary comprehension and knowledge. When a teacher has a number of days to teach vocabulary, multiple strategies can be put into place to increase understanding and long-term retention of the words as there is not one specific strategy that is better than another. However, different strategies increase students' knowledge in different ways. Using a variety of strategies will increase the likelihood that various learning styles have been met; therefore, more students will gain a deeper understanding.

STAR. To begin, Blachowicz and Fisher (2004) have a method that goes by the acronym STAR: Select, Teach, Activate, Revisit. Teachers select words to teach based on the information in the previous section. They then teach the students the new words. This would be done in conjunction with a before, during, and after reading strategy. During the before reading, teachers would introduce the words and get some feedback from students regarding what they know about the words already. During reading, they will give more control to the students by possibly assigning them a word to pay attention to in the text. After reading, a follow-up discussion occurs in the classroom, focused around the new vocabulary words. Teachers then activate the words through activities such as classroom discussions and writing assignments. The goal is to get students to connect the word to their own lives. Finally, teachers will revisit the word through different activities and word play. By using this strategy, students are engaged and teachers use a scaffold method to increase the understanding of new vocabulary. Scaffolding increases low-ability student achievement.

Sentence Writing. Prior to giving students the definition of words or explanations of meanings, students should write sentences using the new words. According to Rupley, Logan, and Nichols (2002), “A richer vocabulary experience would be to have students first write sentences using the vocabulary words, then use the dictionary to confirm if the sentence context used an acceptable meaning of the word” (p. 117). This strategy encourages students to think about the word and how they would fit it into a context. Students may not know the word at all, know partially what it means, or know exactly what it means. This activity will get them thinking, activating background knowledge, and applying the skills they already own to demonstrate what they know about the word.

Word Questioning. This strategy is put into place in order to get students to think in a more complex way about vocabulary, this strategy can be incorporated into various disciplines. Students put their vocabulary word in the center followed by boxes that lead to analysis, comprehension, application, synthesis, knowledge, and evaluation. Allen noted that, “Word questioning is a strategy that teaches vocabulary and promotes critical thinking” (as cited by Bintz, 2011, p. 48). Teachers want students to think deeper about words than just what is at the surface. This activity engages students and increases the connections they make to the word, which will increase the likelihood of the word being retained.

Graphic Organizers. Graphic organizers are beneficial for visual learners. A graphic organizer can display relationships of words and word parts with others. When it comes to morphological families, graphic organizers can increase students’ awareness of how prefixes, roots, and suffixes all fit together. As stated by Phillips, Foote, and Harper (2008), “The research on the use of graphic organizers in vocabulary instruction has yielded overwhelmingly strong results” (p. 64). There are

several different graphic organizers that many teachers implement on a regular basis in their classrooms. A set of key graphic organizers will be discussed in the following section along with specifics as to their benefits for students.

Clue Web. The purpose of a Clue Web is to get students comfortable deducing what new words mean through the use context clues. This tool could be used while reading, watching a video clip, listening to a song, or viewing a picture. In the center of the web, students state the unknown word or object. They then list where it is, describe the attributes, what it does, another word for it, when it happens, and the opposite of whatever the word or object is. Students can review, re-listen to, or re-read sections to keep adding information. According to Graves (2007), “The goal is to demonstrate that the more frequently and carefully students watch, the more clues they can find” (p. 16). This strategy is one that would be most beneficial at the beginning of a specific word study. Another benefit to this web is that students can continuously refer back to it, review it, and add information. This provides a visual for the student about what the word means.

Concept Wheel/Circle. This concept involves another visual representation of new vocabulary words. The concept helps students to make the connection between their conceptual knowledge and the new word. This wheel can be modified in several ways to increase or decrease the complexity based on the specific group of students in the class. The wheel can be given divided into four sections (word, class definition, picture, definition from text), or it can be set up so that only part of it is completed. This strategy is meaningful to students because it encourages them to connect what they already know to a picture and definition from the text. It also helps make the connection of words to prior knowledge, which increases the retention of the new word.

Semantic Mapping. According to Rupley, Nichols, Mraz, and Blair (2009), a semantic map includes five areas. These areas include selecting the word, writing the word in the center of the map, brainstorming related words, categorizing words, and listing other essential related words. This will, in turn, lead to a discussion of the newly learned words and the connections to prior knowledge. In order for this to be most effective, the mapping should be followed up with a group discussion between the word and prior experiences. Once again, the connection between the word and prior knowledge is key to increasing vocabulary acquisition.

Webbing. This strategy is key for helping students see the relationship between words they already know and the newly learned vocabulary. Different cells can be linked together to show various relationships to the vocabulary word. Rupley, Nichols, Mraz, and Blair (2012) explain that, “Webbing graphically illustrates how to meaningfully associate word meanings and to make connections between what students know about the words and how the words are related” (p. 309). Studies have shown that when students can make connections to what they already know, it is easier to comprehend the new concept. Hands-on activities are great for engagement and for tactile learners.

Semantic Sorting. When using semantic sorting, words can be sorted based on a variety of factors. These factors could include, but aren't limited to, synonyms, antonyms, roots, and concepts. Students could physically sort these out by moving words around and sorting them in different ways. Students using semantic sorting techniques have shown greater growth than those who have not (Ebbers and Denton, 2008). When students are physical, they are more apt to engage in the activity, which will increase their exposure to the words that they are learning at the time.

Multiple Exposures to Words. It is also important that students are exposed to words multiple times in order to gain a deeper understanding of the word. Blachowicz and Fisher (2000) stated, “If the goal is for students to learn words on more than a surface level, it is essential to provide ongoing exposures to words, both in print and in speech” (as cited by Ebbers and Denton, 2008, p. 95). Multiple exposures should occur over months, not just in the week or weeks that the words are focused on with the purpose to assess. In classrooms that implement this practice, students are given opportunities to use the word in writing, speaking, and reading. This will increase their chance of discovering multiple meanings, says Ebbers and Denton (2008). This strategy can help students retain words and possibly make the connection to other words or multiple meanings of the same word.

Word Games. Many students love playing games. When teachers transform the vocabulary words into a game format, student engagement increases. There are many vocabulary games to choose from, and with technology increasing in schools, online games that increase vocabulary knowledge are also available. Through games, students are gaining repeated exposure as well as social skills practice. Some examples of games discussed by Wells and Narkon (2011) are Mystery Word, Word-O, and Word Sorts. Mystery Word is played with the whole class and is led by the teacher. Prior to playing, the teacher will post twenty words around the room. The teacher will then write one word down, keep it private, and students will have the opportunity to guess what the word is after the teacher gives a clue. Students can use the posted words to help them identify the mystery word.

In Word-O, vocabulary words are used to play a vocabulary-based game of Bingo. Students alternate between words and definitions in separate squares below the letters W-O-R-D-O. The teacher calls out a word or definition and the student covers

the opposite. If the teacher calls out the word, they have to cover up the definition. If the definition is called out, the student covers the word. When they get five in a row, they call out Word-O and win. This is a beneficial review game for students because the definition can be used in each square and the teacher calls the word out, or it can be reversed so that the word is right in the squares and the teacher calls out the definition.

In Word Sorts, students are encouraged to look for similarities and differences amongst their words. This can be done independently, in pairs, or in small groups. Results can be shared with the whole class. Wells and Narkon (2011) state, “The introduction of vocabulary games can result in a dramatic increase in on-task behavior and word acquisition” (p. 49). For this reason alone, teachers may select to use a word game to increase vocabulary development. The students are learning, engaged, and on task during the word games.

Word Theater. In Word Theater, students work in groups to put together a dramatic play that shows what the word means. This may be used with single words or a set of words. Teachers could divide students up into teams after reading a story and have them act that part of the story out including the vocabulary words. Once the skit is complete students discuss what words were included in the skit and how they were used. This may be made into a competition to gain engagement, especially from older students. An activity like Word Theater may be time consuming, so teachers may be reluctant to use it. However, it is challenging and students can all have a vital role in the play they create. In order for this activity to be successful, all students need to be active participants. This strategy is helpful to those students that learn by doing; they will gain a deeper understanding of the word because they are being challenged to activate the word in a non-traditional way.



Charades. The game of charades can be played in various formats. When using charades with vocabulary instruction, engagement will increase. Students will want to win at this game because it can be viewed as a competition. The students are divided into teams that compete against each other. Each student is given a card with a vocabulary word on it. They must act out the word without making sounds of any kind. The first team that can identify the word wins that round. This game can be played for as many rounds as needed.

The strategies that a teacher chooses should fit both the clientele and the classroom environment. A variety of instructional strategies can be put into place for different reasons. By using a variety of teaching strategies for vocabulary, teachers may engage a larger range of students.

Once students have been introduced to a word, given instruction and time to practice with different strategies, it is time to assess students' knowledge. It is important that teachers are assessing students correctly in order to for data to correctly to show whether or not students retain the information that is being taught.

### Assessment

Once students have been given a set of words and have been involved in guided practice using the words, it is important to assess what they have learned. Teachers approach the method of assessment in various ways. The point in doing an assessment is to see the amount of growth that students have made. For this reason, teachers need to match their test to what has been taught over the instructional period. As Coombe (2011) wrote, "In simple terms, the way you assess vocabulary in the classroom should be reflective of how you teach it. For vocabulary assessment to be valid, it needs to match instruction using formats that students are familiar with" (p.

122). As with any unit that a teacher tests within a school year, it is important to test students both before and after instruction.

Pre and Post Assessment. Pre and post assessments are helpful in seeing the amount of growth that a student has made. The assessment that is used for both instances should be the same. At the beginning, students are given the assessment and it is scored to gauge their initial ability. After the lessons have been taught, the assessment is given again to give the students a chance to demonstrate what they have learned over the duration of the lessons. This can be done unit by unit, or from the beginning of the school year to the end of the school year. There is one specific scale that is used to test vocabulary knowledge; this is called the Vocabulary Knowledge Scale (VKS). This is a self-report assessment where students report how well they know a word on a scale of 1-5. Dougherty Stahl and Bravo (2010) discuss these categories:

1. I don't remember having seen this word before (1 point),
2. I have seen this word before, but I don't think I know what it means. (2 points),
3. I have seen this word before, and I think it means \_\_\_\_\_. (Synonym or translation; 3 points),
4. I know this word. It means \_\_\_\_\_ (Synonym or translation; 4 points),
5. I can use this word in a sentence: \_\_\_\_\_ (If you do this section please also do category 4; 5 points) (p. 571).

This test can be adapted to fit the specific needs of grade level and students in the classroom. By having students take this before instruction, teachers are able to gain insight into where the deepest amount of instruction is needed, plan lessons, and choose strategies accordingly. When given in conjunction with a posttest, the growth can be seen for each individual student.

Assessment Questions.

As with any assessment, there are a variety of test types that can be included. The amount of questions also varies. If a test is testing more depth it will be more limited than a test that is assessing breadth. The types of questions may be similar, but some may go into more depth and require higher level thinking in order to complete the task successfully. Coombe (2011) reports that,

As far as vocabulary tests are concerned, Nation (2001) recommends a minimum of 30 items for a reliable vocabulary test. As far as an upper limit on the number of items on a vocabulary assessment, there is no suggested number put forward in the literature. However, the fatigue factor should be taken into account and teachers should use common sense when constructing vocabulary assessments (p. 114).

Some of the question types that vocabulary assessments are open to include multiple choice, matching, sentence completion, paragraph completion, cloze passages, assessing through reading comprehension, and inside a written example. A multiple-choice question is a question in which there are four answers given to choose from. Matching involves a list of words and definitions that would be matched up. Sentence completion pertains to a sentence that is missing some words (the students would fill in the missing words). Paragraph completion is similar; it is a full paragraph containing blank sections that need to be completed. In a cloze passage, students are given a piece of writing and within each sentence or every other sentence they are given three words to choose from. Students select the correct word that would come next. Reading comprehension questions are answered based on the reading that they have completed. Finally, a written example is where students compose a piece of writing that will be assessed for correct grammar, punctuation, and word choice. Within these question types students can be asked to make connections to

various pieces such as roots, prefixes, suffixes, synonyms, and antonyms. Once again, assessment should reflect the methods used during instruction. Alignment of the test questions and purpose should occur; one way to keep a centered approach is to focus on John Read's three assessment dimensions.

Assessment Dimensions. John Read (2000) developed three different dimensions for the evaluation of vocabulary assessments (Dougherty Stahl and Bravo, 2010). The three different dimensions are Discrete-Embedded, Selective-Comprehensive, and Context-Independent-Context-Dependent. Discrete-Embedded assessment occurs when words are tested in isolation. This can be compared to an anecdotal record keeping method. In Selective-Comprehensive, words are tested from a story or unit reader. A basal unit test would be an example of the Selective-Comprehensive forms of assessment. The last type of test, the Context-Independent-Context-Dependent, assesses words in isolation as well. However, unlike Discrete-Embedded, in this format the way the words are connected to context is considered.

According to Dougherty, Stahl, and Bravo (2010), "Students need to identify the correct definition reflecting the word's use in a particular text passage" (p. 569). These three assessment methods can all be used with success.

When teachers reflect on vocabulary, they think about what words to teach, how to teach them, and in what ways to assess them. The research presented gives information on word selection, instruction and instructional strategies, and assessment that all related to the question of: *How does the selection of vocabulary words, instruction, and assessment affect the retention of newly learned vocabulary?* Research has shown various ways to engage students and create meaningful vocabulary instruction. By selecting the right words and using research-based instruction, teachers can create assessment pieces in order to see the gains that

students make (or don't make, in some cases). The research presented has shown what researchers have learned throughout many years of gathering information. It is the teacher's job to put the action steps into place and see how these pieces affect retention within the student group.

### Summary

The concept of vocabulary development is part of every educational discipline. The way vocabulary is introduced, taught, and assessed is vital to student engagement and learning of new vocabulary concepts. Chapter Two focused on three areas: word selection, instruction and instructional strategies, and assessment.

The points made in this chapter are essential to a solid vocabulary curriculum. Once these are in place and students are engaged, teachers are able to document how students retain words. Each student group will require different words and strategies based upon reading level, but assessment can show the decline, or hopefully, growth of vocabulary retention.

Chapter Three will explain the study that will take place in the fall with a group of sixth grade students. The study will be quantitative in nature, showing growth that students make in their vocabulary knowledge from one point to another based on assessments done at the beginning and the end of the study, as well as bi-weekly throughout the study.

The research design will be described in more detail to explain what the study, how it will be completed, and the anticipated outcomes. Furthermore, participants, variables, and any anticipated threats to validity will be discussed.

## CHAPTER THREE

### Methods

#### Introduction

This capstone centers on the vocabulary question: *How does the selection of vocabulary words, instruction, and assessment affect the retention of newly learned vocabulary?* Students are exposed to new vocabulary on a daily basis. It is the teacher's job to ensure that proper instruction is happening in order to make sure that there is retention past the initial assessment. By properly selecting words, instruction methods, and assessment techniques, teachers can guide their students to be successful with vocabulary in the middle years.

This chapter will describe research that takes place in a sixth grade, suburban, middle school classroom in Minnesota. The research paradigm, method, setting, participants, tools used, and methods of data collection will be discussed. The research paradigm and method will explain the way the research was done and the reasons why they were most applicable to the study. Discussing the setting and participants will give a clear understanding of the group of students that are in the sixth grade. When the tools and the data collection methods are discussed, a picture of how the data was collected to complete the study will be in place. All of which are listed above are essential for a successful research project. The research paradigm and method will be described to provide a greater sense as to how and why I completed the study in the way I did.

#### Research Paradigm and Method

The research paradigm that was followed was a mixed-methods approach. The study included both quantitative and qualitative data. When looking at quantitative data more specifically, the study falls under the experimental methods plan. There

were participants, materials, procedures, and measures. Qualitatively it can also qualify because there was a collection of qualitative documents. For these reasons the research paradigm can be considered mixed methods.

Quantitative Method. Experimental methods follow a specific format of four pieces; these pieces include participants, materials, procedures, and measures (Creswell, 2014). Under the topic of participants, the study was a quasi-experiment because it used a class that was already assigned. Random selection of different students or matching students according to various strengths and weaknesses was not an option. There was one class, however, where the students were separated into control and experimental groups; neither group knew which was the control group and which was the experimental group.

The materials included reading materials and selection of Tier two and Tier three words. Words from morphological families were also used. Throughout the study, various procedures were incorporated to increase student engagement and knowledge of their new vocabulary words. A pre- and post- assessment on vocabulary words was administered. The procedure was to introduce words to students on a Monday, provide instruction and strategies for a portion of a period of two weeks prior to an assessment at the end of the second week of having the words. An analysis of the results of the pre- and post- assessment that students took as well as the bi-weekly vocabulary assessment that they participated in occurred at the conclusion of the study..

Qualitative Method. One component of the study involved conducting a vocabulary inventory to see where students came from in regard to prior vocabulary instruction. The goal was to see how students felt about vocabulary, what kind of instruction they had received in the past, and how they approach words when they

come to them and do not know the meaning of them. These qualitative documents helped with analyzing vocabulary knowledge through the quantitative study.

Reviewing the inventories, bi-weekly assessments, and pre- and post-assessments that students completed helped with analyzing how to teach vocabulary to increase engagement, which may increase retention.

It is clear that the data collected was both quantitative and qualitative. It was essential to this study to analyze both areas to get a well-rounded answer to the question: *How does the selection of vocabulary words, instruction, and assessment affect the retention of newly learned vocabulary?* By collecting the data and analyzing it, I was able to make a connection as to how vocabulary word selection, instruction, and assessment affected retention. The research method that this mixed method fell under is the convergent parallel mixed methods design.

Convergent Parallel Mixed Methods Design. According to Cresswell (2014), “In this approach, a researcher collects both quantitative and qualitative data, analyzes them separately, and then compares the results to see if the findings confirm or disconfirm each other” (p. 219). The research allowed collection of data that had similarities between both the quantitative and qualitative study points. It was then applicable to compare and contrast the two studies and make conclusions regarding vocabulary selection, instruction, and assessment and their impact on retention.

By using a mixed methods approach, data collection of necessary materials made it clear and concise as to what the decision was on the effects of word selection, instruction and assessment. Another factor taken into consideration was the setting where the study took place.

#### Setting



The school that the study was implemented in is in a suburb of St. Paul. It is a large district with nine elementary schools, two middle schools, and two high schools. The middle school that the study is taking place has 63 licensed staff, with 53 of those being licensed teachers. The school is 87% white, 3% African American, 4.6% Hispanic, and 4.7% Asian/Pacific Islander. It has a 21% free and reduced lunch population. The school serves approximately 1,000 students in grade six, seven, and eight.

The area, as a whole, has a strong sense of community and works together to increase student achievement and participation in extracurricular sports. For the most part, families are involved in their child's education and want to be able to assist their child in achieving academically. We, as teachers, try to make connections to the students and their homes. When parents, teachers, and students are on the same page, success is more likely to happen.

The community and parent groups are supportive of providing instruction that is in the best interest of the child. In completing this research, I will be identifying what works and does not work in regard to vocabulary instruction. The next point to consider is the specific group of sixth graders that I worked with for this study.

### Participants

The participants in this study were incoming sixth graders new to the middle school setting. There were 27 students; 17 boys and 10 girls. Students range in age from 11-12 years old. These students test academically in the low to average range when it comes to reading comprehension. Two students were part of a 504 plan; however, accommodations were not necessary for this study. Three students were Asian/Specific Islander, two were Hispanic, one was African American, and the

remaining twenty-one were white/Caucasian. The students have agreed, along with their parents, to this research study that was conducted.

Overall, the students were newcomers to the middle school setting, 6<sup>th</sup> graders, and, for some, new to a vocabulary curriculum that was pulled from reading articles and morphological families. Starting at the beginning of the year, they were excited to try new things and learn with a freshly-rested mind. The school year started with obtaining permission from these students and their parents prior to collecting any data.

### Human Subject Research

Prior to conducting my research I obtained permission from the Human Subject Committee. The committee was provided with all required documents in order to get permission. Proof of permission from the school district was provided as well as the parent letter and agreement form. This was done with support from my advisory board after they reviewed my first three chapters.

Submitting my information and research plan to the Human Subject Committee, I attest that the information on the HSC form is accurate and that every effort has been made to provide the reviewers with complete information related to the nature and procedures to be followed in this capstone.

### Methods

There are several different methods that were involved in my study. Students took a vocabulary inventory, a pre- and post- assessment, and were given bi-weekly articles or short stories with connected vocabulary words. With these articles students read, identified where the words were, and learned about context clues. They also received daily strategic vocabulary instruction, and were assessed on a bi-weekly basis.

Vocabulary Inventory. Students began the study by taking a vocabulary inventory. This inventory gave insight into how students felt about vocabulary, what their past experience had been with vocabulary, and the skills they have to discover the meaning of words they do not know when they come upon it in their reading. This inventory was given at the beginning and the end of the study to see if their opinions of vocabulary changed over the course of the study (See Appendix A).

Pre- and Post- Assessment. The second item that students completed was the pretest that assessed what students already knew about vocabulary. This tested their knowledge of specific Tier Two and Tier Three words, strategies for learning the deeper meaning of words, and their ability to complete an assessment where higher-order thinking is involved. The same assessment was also given at the end of the study as well, so that I was able to analyze the growth, or lack of growth, that had occurred over the five week period (See Appendix B).

Control and Experimental Groups. Throughout the study, students were separated and provided with various readings. Students were divided into a control group and an experimental group. This was done at random within the class that the experiment was conducted in. The control group and experimental group worked with the same vocabulary words, but the approach to vocabulary instruction was different. This varied on a daily and weekly basis.

Control Group. The control was made up of 13 students; five girls and eight boys. These students were in the back section of the classroom. Each day, they would be given a simple task to do for vocabulary. They would complete activities such as reviewing their notes, connecting with a friend about the words, and making flashcards. They were given no direct instruction by the teacher and they were not

given specific vocabulary activities to do that tailored to specific needs of the words for the two-week cycle.

Experimental Group. The experimental group was comprised of a group of 14 students; six girls and eight boys. Each day this group was given specific graphic organizers with direct instruction or was given an activity that was lead by the teacher. They were given directions on how to complete an activity, worked through an example, and completed one on their own. There was scaffolding that took place from the beginning of the direct instruction until the end.

The readings that were used came in the form of an article. Along with the reading, students were introduced to ten vocabulary words that were intertwined in the reading piece. According to Rupley, Nichols, Mraz, and Blair (2012), “Fukkink and de Glopper (1998) found that context clue instruction appeared to be more effective than the other vocabulary instructional types identified (cloze instruction, general strategies, definitions and practice only)” (p. 303-304). The use of context clues with Tier Two and Tier Three words and words from morphological families lead to an enriched set of vocabulary words. Additionally, by implementing deep discussion, specific strategies, modeling, and scaffolding, students became more successful on the assessments. This also led to examining if the retention of the newly learned words was successful.

Teacher modeling, scaffolding, and use of strategies each play a role in the engagement and understanding of newly learned material. The next part of the method was to ensure that multiple strategies were used to model how to learn new words at a deeper level. This was incorporated into instruction in order to provide proper teacher modeling and scaffolding according to the needs of the specific sixth graders.

Bi-Weekly Assessment. Students were assessed bi-weekly to examine the connections they made to each of the words provided throughout the two-week timeframe. The assessment mimicked the instructional methods used and assessed the understanding of the word beyond the surface level. These assessments were looked at in conjunction with the post-assessment that students took at the very end of the study. As stated previously, the post-assessment was the same as the pre-assessment that students took. This helped to gauge student growth.

Throughout the course of the study, students were given a variety of words, strategies, and assessments to engage with. They were expected to perform their best and were given specific praise when they did. Although this study was only five weeks long, it was clear by the evidence gathered that the changes in instruction made a difference on retention.

By examining the vocabulary inventory, pre- and post- assessments, and the bi-weekly assessments, information as to whether or not students were able to retain the new knowledge was gathered. It was essential to look at all three pieces of data when analyzing retention, as these tools that were used showed a vivid picture of success or failure in regard to the way vocabulary was taught.

### Tools

There were three different tools used throughout the study to collect data. These tools included the vocabulary inventory, the pre- and post- assessment (the same assessment was given at the beginning and the end), and the bi-weekly vocabulary assessments. Each of these pieces of data were examined in-depth and analyzed amongst each other to form a conclusion about vocabulary word selection, instruction and assessment to answer the capstone question of: *How does the selection*

*of vocabulary words, instruction, and assessment affect the retention of newly learned vocabulary?*

Vocabulary Inventory. The vocabulary inventory (Appendix A) gained the students' viewpoints on vocabulary as a whole, their past experiences with vocabulary, as well as the tools they already have to identify words that they are unaware of when they approach them in their reading. Students gave feedback on different factors that influence vocabulary knowledge. This inventory gave insight into how students feel about vocabulary and guided instruction.

Pre and Post Assessment. Students took a common assessment at the beginning and end of the study (Appendix B). This assessment tested students on what they already knew about the words that they were learning throughout the course of the five-week study. This assessment included some multiple choice, short answer, cloze answer, and essay-type questions where students were required to use specific vocabulary terms. This assessment provided insight into the growth that happened over the five weeks of instruction. By taking the same assessment prior to and after instruction, a clear picture on how much they learned and retained over the period of the study was obtained.

Bi-Weekly Assessment. Every two weeks students took an assessment (Appendix C) to test their vocabulary knowledge of the words that they learned within that time period. . Throughout the course of the study, students took two of these assessments. These assessments provided evidence to support what they were learning every two weeks versus what they were retaining over the entire five-week span.

These tools helped to answer the question of: *How does the selection of vocabulary words, instruction, and assessment affect the retention of newly learned vocabulary?* When I analyzed the results of all three pieces of data, the information

answered the question. Using these three pieces is essential in creating triangulated data and in having multiple data points to relate to and use as evidence of best practices in vocabulary instruction.

### Data Analysis

While collecting data, it was essential that it was well-organized and sorted in a way that made sense to the study and analysis of the question at hand. The data was kept organized by using electronic databases to store the information. Google Sheets were used to keep track of students' assessment scores. Data collected from the inventory was recorded on student handouts due to lack of Wi-Fi capability at the beginning of the year in our building.

### Summary

Overall, there were numerous aspects included in the research itself. It involved documentation of parent support through permission, dividing students up within one class, giving a vocabulary inventory to all students in the class, administering the pre- and post-assessment as well as the bi-weekly assessments.

Once all of these assessments and pieces were conducted it was important to analyze the data to come to a conclusion about the selection of words, instruction, and assessment. This analysis is the focus of Chapter Four. In Chapter Four, a review of the results gathered while conducting the study will be discussed.

## CHAPTER FOUR

### Results

#### Introduction

The capstone began with a wondering and turned into a larger, more in-depth question into what really works for students in relation to vocabulary development. I have explored what research has found and have conducted a study of my own. Throughout my capstone journey I have been exploring the question: *How does the selection of vocabulary words, instruction, and assessment affect the retention of newly learned vocabulary?* This chapter will identify the results that have surfaced after placing research-based strategies into a sixth grade classroom during vocabulary instruction.

Chapter Four will explain the results of the study; this will include results from the vocabulary inventory, the pre- and post-assessment, and bi-weekly vocabulary assessments. In the vocabulary inventory, students gave their thoughts on vocabulary. This is important to keep in mind, due to the fact that students are just entering the middle school setting where they begin to switch teachers and learn from multiple teaching styles. The pre- and post-assessment section focuses on the results and differences and gives insight into whether or not the methodology of this study was successful. Finally, I will share the results of the control versus experimental group and analyze what caused the difference in scores. Knowing this information will also solidify the overall results of the study.

#### Vocabulary Inventory

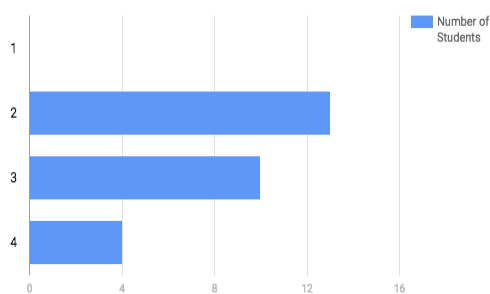
Prior to giving any vocabulary instruction, students were given a vocabulary inventory (Appendix A) to assess where they were in terms of vocabulary instruction



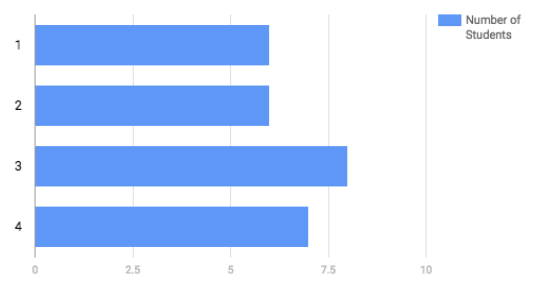
from previous years. The vocabulary inventory asked students about past experiences with vocabulary instruction, what they do when they encounter unknown words, and provided me with information as to what they believe would help them learn vocabulary this year.

Prior Experiences. The beginning of the inventory started with five questions about students' past vocabulary experiences. Students were asked to rate their experiences on a scale of one to four based on the following: one meaning disagree, two meaning somewhat agree, three meaning agree, and four meaning strongly agree.

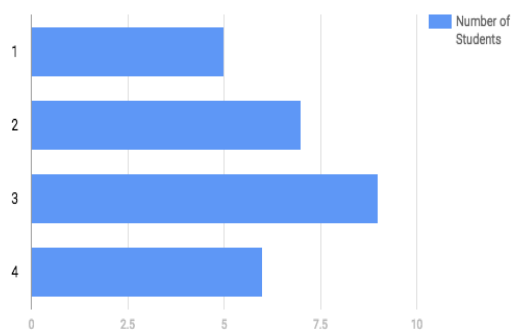
I have enjoyed learning new words.



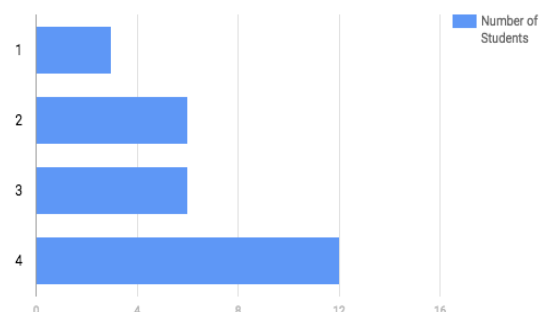
I was given a list and expected to memorize it.



I was given new activities each week to learn new words.



I completed homework each week with the words.



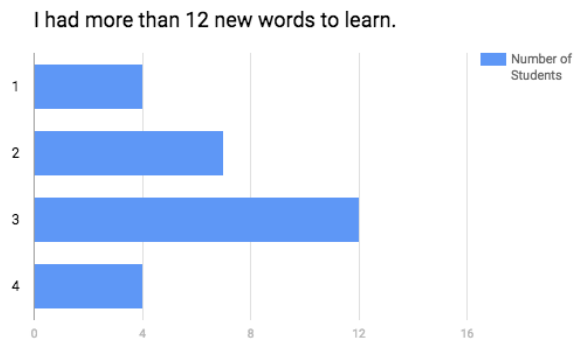
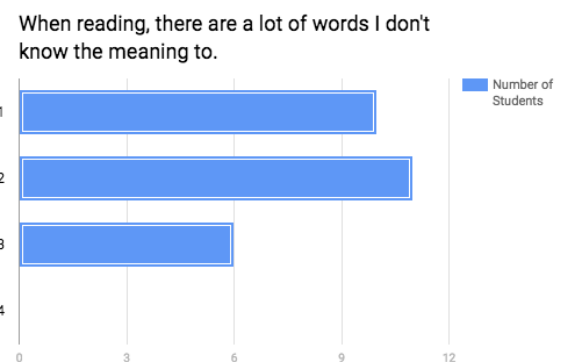
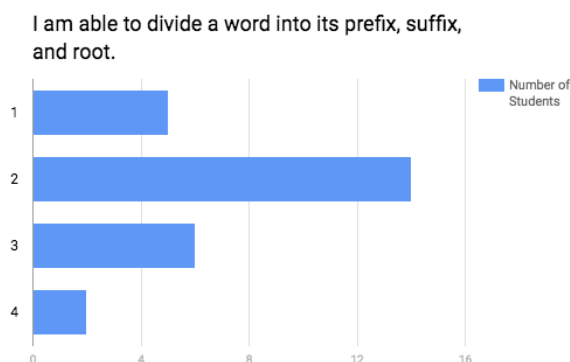
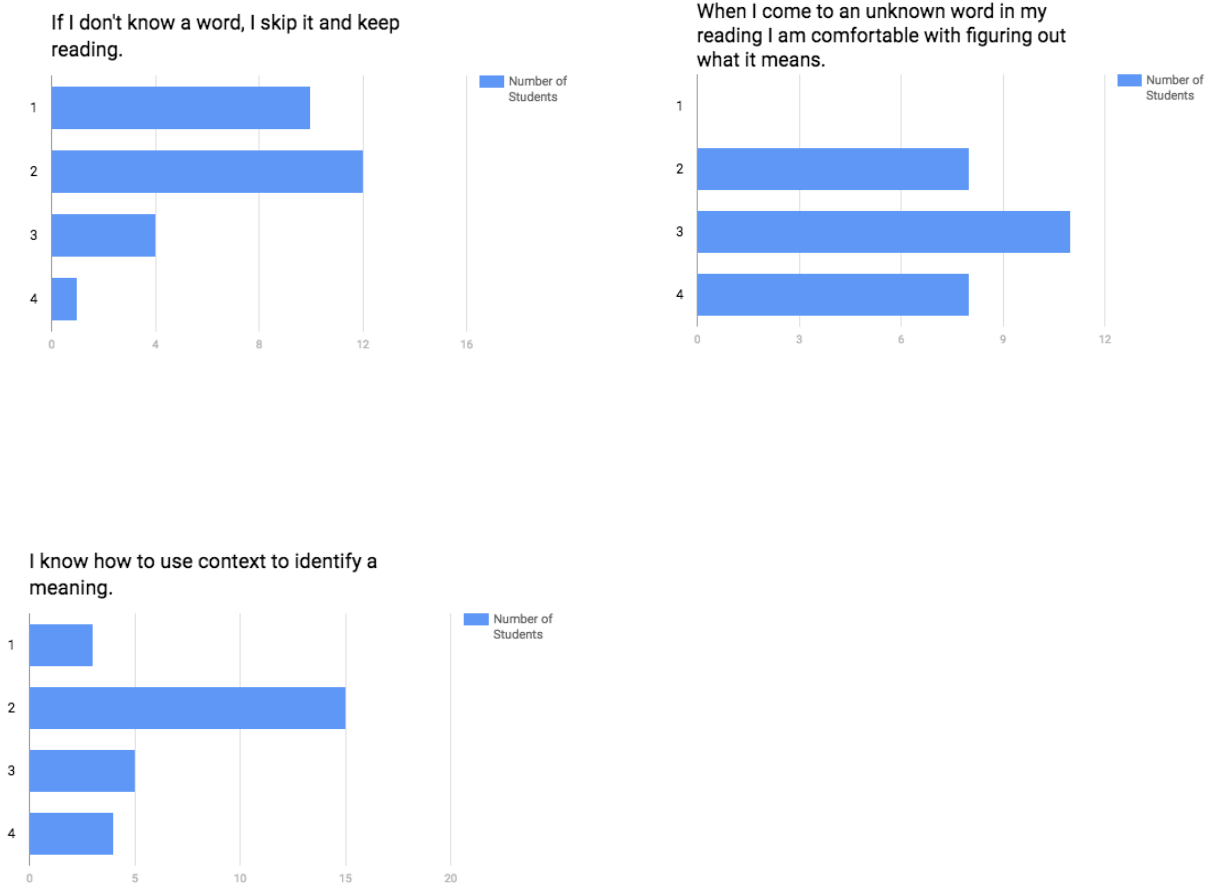


Figure 1. Student responses to prior experience (5 graphs)

From these results, it is clear students were often given a list of twelve or more words and expected to memorize them throughout the week. They were expected to do homework that focused on these words on a weekly basis. Although some students enjoyed learning new words, a majority “somewhat agreed” that they enjoyed learning new words over agreeing or strongly agreeing. This data was used to identify what students were used to and apply it to what research says about the ideal number of words and weeks spent on words.

Unknown Words. Students rated five statements about identifying words that they encountered while reading. Students then rated the words on the same scale from the previous experience with vocabulary as mentioned above: one meaning disagree, two meaning somewhat agree, three meaning agree, and four meaning strongly agree.





*Figure 2. Student responses to unknown words (5 graphs)*

The data from the prompt that read, “When I come to an unknown word in my reading, I am comfortable with figuring out what it means,” indicated a majority of students agreed or strongly agreed with the statement. Furthermore, when responding to the prompt, “When reading, there are a lot of words I don’t know the meaning to,” a majority of students disagreed or strongly disagreed with the statement. . These results show that the majority of students are comfortable with identifying the meaning of the unknown words, which are few, while reading. However, when it comes to using context to decode the meaning, students identified an area of need. Students responded to the statement, “I am able to divide words into its prefix, suffix, and root,” with 18 out of 27 students identifying themselves as strongly disagreeing or disagreeing. Therefore, instruction on word parts should be an area of

focus for my classroom. Students were then asked about how they thought vocabulary should be taught this year and how they thought they would learn best.

This Year. Students were asked to identify what would help them learn new vocabulary words in sixth grade. This was an open-ended question that students were asked to answer with honesty. Many students responded to what would help them by saying, doing homework to get to know new words or asked for a list so they could memorize the words they would be tested on. By sixth grade, students have had many experiences in being given lists of words to learn and then being assessed on those words. It is unknown if they may or may not actually retain any information of the newly learned words past the test date. There were a several students that offered advice such as, “sort the words into different categories”, “use the word in a sentence”, and “reading and writing about the words in a story.” These strategies mimic some of the research that has been done on vocabulary instruction, I was pleased to see that students were able to identify these as ways to learn new words.

Through taking the vocabulary inventory, students were able to express their experiences with vocabulary instruction in the past and how they would like to learn in the future. It gave a snapshot of what they have experienced to this point, and helped to identify the methods they were able to successfully learn by. As expected, students were often times given a list of words and expected to learn them by the time they took the test. Research by Wilhelm(2013) showed that this is not the best way to learn new words if we are striving for retention of newly learned words. Specific word selection and instruction were used to target the sixth grade students in this study.

### Word Selection

Word selection is essential in vocabulary instruction. Referring to what was said in the previous chapter, I will continue on with how words were selected. Words were selected from current texts, through Read Works, geared at a 6<sup>th</sup> grade reading level. Tier Two and Tier Three words were selected, as well as words with prefixes and suffixes that were to be taught during the time of the study. Tier Two words were selected due to the fact that they were words that were important to understand in regard to what was going on in the text. The Tier Three words were selected based on the articles and their main ideas. For example, one article revolved around the health effects that those who helped with September 11 encountered or will encounter. The prefixes and suffixes were chosen based on the need of the students. Once words were selected, the instruction had to be geared toward learning goals of the students in both the control and experimental groups.

### Instruction

The methods of instruction used had to be relevant to the students in order for them to make a connection and engage in the material. With the study encompassing both the control and experimental group in one class, certain dynamics were set into place. The beginning of the study was at the same time as a new seating arrangement; students were seated according to which group they were in. However, students were unaware of the fact that their new seats determined which group they were a part of. This made it more effective to target the experimental group during the lesson time.

Experimental Group. The experimental group was seated near the front of the room. They received more group-based instruction. At the beginning of each day, students were given a new method of working with the words that accompanied their article for the two-week period. Students would begin by brainstorming definitions of the word followed by using the word in a sentence. As a group, prefixes and suffixes

were identified and defined. Students came up with other words that fit the format of the prefix or suffix and defined them based on the meaning of the word part. From there, students were guided to complete a webbing activity where they connected and showed the relationship of the word to other words and definitions. Students would also sort the words into various groups based on differing methods that each group decided upon. During the second two-week period, students also incorporated a concept wheel and a game of Word Around the Room where students read a definition and another student had to state the definition.

Control Group. The control group was seated near the middle and back of the classroom. They accompanied the experimental group in the reading of the article and identifying the vocabulary words that were selected. However, on the days when the experimental group was working on specific learning strategies, the control group had various options. To begin with, the students were instructed to make flash cards for each of the ten words. From there, students were given the option to quiz one another, use two sets to play memory with the vocabulary words and definitions, or to study on independently with the flash cards. Overall, students seemed satisfied with what they were instructed to do and complied with the differing lessons provided.

In order for all of this to be possible, it was essential to identify where students were currently at in relation to vocabulary development. To gather further information and test their vocabulary growth, a pre- and post- assessment was utilized. In order to measure the success rate of the methods used, students were given a pre- and post- assessment that would measure how much they learned from the beginning to the end of the study.

#### Pre- and Post- Assessment

Students were given a pre- and post- assessment (Appendix B) to evaluate how well the control and experimental groups each performed. Data was collected from the assessments and was averaged out for both groups. The assessment included multiple-choice, fill in the blanks, completion of sentences, identifying prefixes and suffixes activities, and an essay using specific vocabulary words. Students were given unlimited time to complete this assessment and were encouraged to do their personal best.

Pre-Assessment. Prior to reading any of the articles or learning the new vocabulary, students took a pre-assessment to see where they were at in terms of the vocabulary words that had been selected for the following two vocabulary units. Students completed the assessment, but many struggled and became frustrated as they came upon the more difficult questions. Part-way through the assessment, many students began to ask individual questions and flip from one question to the next. There were many sighs going on around the classroom, and the looks on students' faces showed disappointment in how they believed they were performing.

Students that were part of the control group scored an average of 17 out of 32 points on the pre-assessment, whereas the students that were part of the experimental group scored an average of 8.6 out of 32 points. Once all of the lessons were completed and students had taken both bi-weekly vocabulary assessments, they were given the post-assessment to see the growth that resulted from the lessons over the four weeks of the study.

Post-Assessment. Once the articles were read, vocabulary was taught, and students took the two vocabulary assessments over a four-week timeframe, a post-assessment was administered. The post-test was structured the same as the pre-assessment. Students improved, overall, on this assessment piece in both the control

group and experimental group. Students in the control group scored an average of 23.8 out of 32 whereas the students in the experimental group scored 24.1 out of 32. This was a difference of 6.8 points for the control group and 15.5 points for the experimental group.

*Table 1. Pre and Post Assessment Results*

Group	Pre Assessment Score (32)	Post Assessment Score (32)	Difference
Control	17	23.8	6.8
Experimental	8.6	24.1	15.5

When looking at the average scores of the control and experimental group in the post-assessment, both groups improved. The control group gained an average of 6.8 points on their post-assessment whereas the experimental group gained an average of 15.5 points. These data points, alone, show a success in the methods that were used. The results of the two assessments make it clear that there was growth that was obtained by using different teaching methods with one group versus another. Students were able to make a connection with the words and word parts and perform better on the post-assessment. Those that were part of the control group scored about the same compared to the experimental group, but did not make as many gains. This shows that students in the experimental group did retain more newly learned information between the time of the pre-assessments and post-assessment.

Overall, students in both groups improved in their vocabulary development. However, students in the experimental group that received different methods of instruction and activities gained more knowledge over the five weeks than the control group. This was made clear by the evidence of the assessment scores between the pre- and post-assessments.



### Bi-Weekly Vocabulary Assessments

After students were given the pre-assessment, different teaching methods and strategies were put into place. The experimental group was given more direct teaching and peer reviewing than the control group. Both groups, however, took the same assessment at the end of each two-week period with the new set of ten words. The results of the bi-weekly vocabulary assessment (Appendix C) was revealing when it came to how well students do when strategies are taught and words are worked with each day versus when words are given and expected to be memorized by the test date.

Format. The format of the assessment that students took every two weeks during the time of this study varied. However, both assessments were reflective of how the new vocabulary was taught over a two-week time frame, as suggested by Coombe (2001) and mentioned in Chapter Two. During the first assessment, students answered some multiple-choice questions, filled in the blanks, wrote a paragraph using certain vocabulary words, and identified words with specific prefixes and their meanings. On the second assessment, they were asked once again to answer multiple-choice questions, fill in the blanks, write five sentences with five specific words, followed by supplying words that had specific suffixes and what their meanings were.

Data. Data was collected from both assessments based on the control and experimental group. Students in both groups were given the same directions and the same amount of time to complete the assessments. Data is provided in the following table.

*Table 2. Experimental vs. Control Group Bi-Weekly Results*

Test	Experimental Group	Control Group
9/11 Articles	16.9/20	14.5/20
<i>Canine Courage</i> (McClure, 2007)	15/20	11.9/20

As demonstrated in the table above, students in the experimental group scored overall better than the control group. On both of the bi-weekly assessments, students that were a part of the experimental group were able to demonstrate growth above their peers that were in the same class but receiving differing instruction.

In reviewing the data from both of the bi-weekly assessments, it is clear that the differing methods of teaching and activities that were given to the experimental group helped in achieving a higher test score on the assessments at the end of the two-week period. If all students were given the same instruction over the two-week periods, overall achievement would have likely increased as well.

### Summary

Overall, students in the experimental group outperformed those in the control group. The data collected confirmed the research that states when students are given learning exercises and activities, they learn and retain more than if they are just given a list of words to memorize. By giving a vocabulary inventory, a pre- and post-assessment, and two bi-weekly vocabulary assessments, it was clear that the students retained the newly learned vocabulary. The vocabulary inventory provided insight into opinions and past experiences with vocabulary, and their pre-assessment tuned me into where the class as a whole struggled with vocabulary. Additionally, the post-assessment showed how much growth occurred between the two different groups. Finally, the bi-weekly assessments revealed how well one group did over the other when different teaching methods were incorporated.

I have shared information on the literature that has been reviewed, the methods, and the results of the study that was focused the capstone question: *How does the selection of vocabulary words, instruction, and assessment affect the retention of newly learned vocabulary?* Indeed, this study proved that the way

vocabulary words are selected, the instruction, and assessment affected the retention of vocabulary words. Chapter Five will provide conclusions about what has been learned, the implications for the research, and recommendations going forward.

## CHAPTER FIVE

### Conclusions

Over the span of this research project, I encountered many different theories and methods for teaching vocabulary to middle school children. I have compiled them and completed a study over a five-week time frame where results were obtained and data analyzed to support the fact that selecting vocabulary words, and varying ways of instruction, increases retention of newly learned vocabulary. As the data was collected, I was able to make connections, identify limitations, and determine some considerations that need to be taken into account in future vocabulary instruction.

#### Connections to Research

While working on creating vocabulary lessons and assessments, I focused on the data I obtained through my literature review. Through researching, I learned that students should be given between eight and twelve vocabulary words every two weeks if we want them to learn the words at a deep level and retain the knowledge of the newly learned words (Beach, Flynn, O'Connor, and Sanchez, 2015). It was made clear that we should go deeper with fewer words.

It was also evident that students need to be taught new vocabulary through the readings that they are doing. Bintz (2011) makes the following claim about words learned through reading, "Teachers can help students improve vocabulary by providing instruction that helps them see the value and relevance of word study and allows them to study interesting and important words that come from texts they read in the classroom" (p. 47).

Furthermore, students must be given activities throughout the two-week lesson time frame to connect with the newly learned words. This can be done through various activities that correspond with the in-class texts and vocabulary words.

Encountering these words in context and throughout the two-week period helps to solidify the knowledge students are gaining.

Overall, the data from the research and from my study support one another. Students that were given specific instruction on the words and not provided a list to memorize performed better on the bi-weekly assessments and achieved a larger gain between the pre- and post- assessments. Results from this five-week study revealed that students must be given vocabulary words based on a reading they are doing in class, vocabulary activities throughout a two-week time frame, and an assessment that mimics the vocabulary lessons if we want them to successfully learn and retain the new vocabulary.

### Implications

The research shows and data supports that vocabulary must be taught by selecting words from relevant text that students are reading on a two-week basis. This is important to consider due to the fact that many students struggle with acquiring new vocabulary. If students are able to succeed with new vocabulary, their motivation to continue reading and gaining new vocabulary may increase. All too often, students are provided a list and told to memorize the words and are assessed on it within a week. This research shows how much more students can gain from using words from a relevant text to support their vocabulary development.

By having these skills, students will be able to perform better on standardized tests and improve their writing. Performance on standardized tests is, in part, gauged by the ability of the test-taker to identify words or phrases in a text. Through teaching students these skills during the vocabulary instruction period, they will be learning skills to increase achievement on standardized tests as well. In writing, students will improve by increasing and varying the vocabulary that is included in a writing piece.

Increasing skills in other contents could also result from implementing vocabulary instruction based on relevant text. Teaching students to define words and to use their vocabulary skills in other contents will increase their knowledge all around and improve overall motivation. All subject areas could also implement these methods to increase knowledge of specific words they would like to focus on in the curriculum.

### Limitations

As with most items, time is always a factor. How do teachers make the time to incorporate vocabulary instruction in the way that has proven works? Teachers and administration, alike, may hesitate from implementing this instructional model due to the lack of time to create vocabulary units out of articles, short stories, or reading passages that are being used in class. However, teachers and administrators will likely agree that this would be the best practice for teaching vocabulary based on the literature review and data. A discussion focusing around the time that will be given to create vocabulary units based on the information obtained in this study would be needed.

### Future Considerations

Taking this data and implementing it into a system that has already been created can take some time. Reading pieces need to be gathered and words need to be selected based on Tier Two and Tier Three (Beck and McKeown, 1985) words as well as words from various morphological families. This all takes time and will need support. In order for this to be a solid piece of curriculum, time would be needed to pull all of these pieces together and create lists and assessments for the various reading pieces that would be used. Relevant articles would need to be found, lists

based on the Tiered system would need to be identified, and assessments would need to be written. Teachers throughout the building would need to be educated on the data that supports this method of teaching vocabulary.

### Conclusion

From the beginning of this study, it was clear that vocabulary was a piece of curriculum that I struggled with, I identified where I was coming from in the realm of vocabulary instruction. I reviewed research on the topic of vocabulary and identified some key areas to focus around when it came to providing sixth graders with vocabulary instruction that would increase their retention of newly learned words. Through the research and the data I collected, I was able to identify a method that works and is supported not only by research, but also by the data gathered from my students' assessment results.

This capstone began with my personal and professional journey in literacy and was followed by Chapter Two that covered research that was obtained through a literature review. Multiple resources were used in the literature review to identify essential pieces of a vocabulary program. Chapter Three continued by explaining my method of research and the path that would lead me to my results. Chapter Four focused solely on the results of the study I implemented in my sixth grade language arts classroom. Finally, in Chapter Five, I have drawn conclusions focusing on connections, implications, and future considerations. Overall, I feel that I have answered the overarching capstone question: *How does the selection of vocabulary words, instruction, and assessment affect the retention of newly learned vocabulary?* Selecting words, using specific instruction methods, and assessing students does increase their vocabulary retention.

In reflecting upon the ability to work closely with literacy as a whole, and vocabulary more specifically, I am pleased with the opportunity I was given. I had a wonderful experience exploring different options for developing students' vocabularies. I look forward to my future in enlightening students and impacting their vocabulary through the middle school years.



APPENDIX A

Vocabulary Inventory

Vocabulary Inventory

Answer the following questions to the best of your ability and as honestly as possible. Use the scale below.

1-Disagree    2-Somewhat Agree    3-Agree    4-Strongly Agree

**Past Experiences with Vocabulary:**

I have enjoyed learning new words.	1	2	3	4
I was given a list and expected to memorize it.	1	2	3	4
I was given new activities each week to learn new words.	1	2	3	4
I had more than 12 new words to learn.	1	2	3	4
I completed homework each week with the words.	1	2	3	4

**Unknown Words:**

When I come to an unknown word in my reading I am comfortable figuring out what it means.	1	2	3	4
I am able to divide a word into it's prefix, suffix, and root.	1	2	3	4
I know how to use context to identify a meaning.	1	2	3	4
When reading there are a lot of words I don't know the meaning to.	1	2	3	4
If I don't know a word I skip it and keep reading.	1	2	3	4

**This Year:**

What are ways that you believe would help you to learn new vocabulary words?

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If you could choose, would you rather be given a list of words to memorize, learn new words throughout the week, or learn words throughout different readings?

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APPENDIX B

Pre and Post Assessment

Vocabulary Assessment  
Pre and Post

Name: \_\_\_\_\_

**Multiple Choice: Choose the answer that best completes the statement**

1. Something that can harm you and is created by plants and animals is called a \_\_\_\_\_.
  - a. toxin
  - b. antibody
  - c. vaccine
  - d. vitamin
2. If something happens sporadically, it is happening \_\_\_\_\_.
  - a. all the time
  - b. only once
  - c. every other day
  - d. you never know when it will happen
3. When I make a hypothesis I \_\_\_\_\_.
  - a. know the answer
  - b. talk to a friend
  - c. make an educated guess or prediction
  - d. only think it in my head
4. A commuter is someone who \_\_\_\_\_.
  - a. eats
  - b. stays home
  - c. is good on computers
  - d. travels between two places
5. A decade is \_\_\_\_\_ years.
  - a. ten
  - b. thirty
  - c. twenty
  - d. one hundred
6. The suffix -ous means \_\_\_\_\_.
  - a. life
  - b. empty
  - c. full of
  - d. without
7. Having to do with life is \_\_\_\_\_.
  - a. dispensable
  - b. vital
  - c. incurred
  - d. additional
8. The prefix vac- means \_\_\_\_\_.
  - a. full
  - b. partial
  - c. empty
  - d. connected
9. When something has been recovered it has been \_\_\_\_\_.
  - a. lost
  - b. found
  - c. stolen
  - d. moved
10. When there are pieces scattered around after an accident they could be referred to as \_\_\_\_\_.
  - a. debris
  - b. commuter
  - c. valuable
  - d. important

**Fill in the following blanks.**

11. When people wear gear that is made to keep them from harm it is

\_\_\_\_\_.

12. Name a material that is used to make fireproof materials and insulation

\_\_\_\_\_.

13. \_\_\_\_\_ is when a person is liable for or bring something upon themselves.

14. The system that has to do with the act of breathing in your system is called

\_\_\_\_\_.

15. If something is easily influenced or likely to be afflicted it is

\_\_\_\_\_.

**Complete the following sentences.**

In science class we had to make a \_\_\_\_\_ about why the smoke  
(16)  
\_\_\_\_\_ out of the test tube. Once the smoke disappeared, the test  
(17)

tube began \_\_\_\_\_. This \_\_\_\_\_ to us that we  
(18) (19)

should not have mixed those two chemicals together without thinking. Good thing this  
won't cause \_\_\_\_\_ like asbestos does.  
(20)

**Prefixes/Suffixes: Identify what each word part means**

21. deca-: \_\_\_\_\_

22. -ive: \_\_\_\_\_

23. vac-: \_\_\_\_\_

24. -ory: \_\_\_\_\_

25. -ible: \_\_\_\_\_

26. -ous: \_\_\_\_\_

27. vit-: \_\_\_\_\_



APPENDIX C

Bi-Weekly Assessments

*Canine Courage*  
Vocabulary Test

Name: \_\_\_\_\_

**Using what you know about the prefixes and suffixes we learned, complete the following questions.**

1. The toy no long connected to the Wi-Fi. It was found to be \_\_\_\_\_.  
a. defective                      b. attentive                      c. destructive
2. Some kids need more activities that meet the needs of their senses, this would be referred to as \_\_\_\_\_.  
a. respiratory                      b. auditory                      c. sensory
3. Something that is able to go inside out is \_\_\_\_\_.  
a. unstable                      b. reversible                      c. shifty
4. Something that is full of wonder would be \_\_\_\_\_.  
a. wondering                      b. wondrous                      c. wonderless
5. Various forms of these keep you living longer.  
a. vitamins                      b. vitals                      c. vitality

**Fill in the following blanks using vocabulary words from this unit.**

The firemen has to wear \_\_\_\_\_ gear to help them not  
(6)  
get smoke inhalation. One firefighter forgot his mask, so he suffered \_\_\_\_\_  
(7)  
issues and had to go the hospital to be treated for the \_\_\_\_\_  
(8)  
that entered his body. The \_\_\_\_\_ materials had an  
(9)  
affect on his lungs which lowered his \_\_\_\_\_ when they  
(10)  
checked him into the ER.



**Use the following words in a sentence that shows you understand the meaning of the word.**

Protective:

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Hypothesis:

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Mesothelioma:

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Debris:

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Susceptible:

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**Provide words that were not on this unit's discussion list or come up with words of your own that go along with the meaning of the following suffixes.**

Suffix	New Word	Meaning
-ive		
-ory		
-ible		
-ous		

*I was 11 on 9/11 and Empty Sky*  
Vocabulary Test

Name: \_\_\_\_\_

**Complete the following multiple-choice questions using what you know about the words from this unit.**

1. Someone might need to abandon his or her home if a toxin gets into it.  
Another word for abandon is \_\_\_\_\_.  
a. billow                      b. evacuate                      c. reveal
2. Every \_\_\_\_\_ years we celebrate a new decade.  
a. ten                      b. twenty                      c. one hundred
3. When the mirror broke you heard a loud, \_\_\_\_\_, noise.  
a. shattering                      b. recovered                      c. clunking
4. I finally \_\_\_\_\_ after my cold.  
a. billowed                      b. incurred                      c. recovered
5. It's a good thing we only get sick \_\_\_\_\_, otherwise life would be so unpleasant.  
a. sporadically                      b. shatteringly                      c. revealingly

**Fill in the following blanks using vocabulary words from this unit.**

The White House was the \_\_\_\_\_ for the president of the  
(6)  
United States. The president was a \_\_\_\_\_ between the White  
(7)  
House and the Capital. He was responsible for the \_\_\_\_\_ costs of  
(8)  
keeping Air Force 1 in working order. After a \_\_\_\_\_ he finally  
(9)  
\_\_\_\_\_ and had money again.  
(10)

**Write a story using the following words to describe what it would have been like if you were in New York when 9/11 happened. Please take this seriously, this is a serious event in our history. (shattering, evacuated, recovered, sporadic, billowed, incurred)**

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**Provide words that were not on this unit's discussion list or come up (make up) with words of your own that go along with the meaning of the following prefixes.**

<b>Prefix</b>	<b>New Word</b>	<b>Meaning</b>
Vac-		
Deca-		

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