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USING A CONCEPT OF DEFINITION WORD MAP TO TEACH SCIENCE VOCABULARY

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Abstract The purpose of this study was to examine the teaching of science vocabulary using a concept of definition word map on students' vocabulary knowledge and comprehension of science texts and concepts. Thirty-seven fourth-grade students from a medium sized, southern, suburban elementary school participated in the study. This study was conducted using a mixed, quasi-experimental approach. Both quantitative and qualitative data were collected and analyzed through pre- and post surveys, pre- and posttests, a focus group interview, student work samples, and teacher observations. Results of the study indicated that students' vocabulary knowledge and ability to independently generate vocabulary definitions significantly increased. The focus group themes showed that students felt more confident in their understanding of science vocabulary and concepts and were better able to visualize what a word meant during classroom lessons or while reading. The results of this study can be used to help educators improve their science vocabulary instruction and student success with content area texts and concepts.

Keywords: teacher action research, graphic organizer, vocabulary, learning strategies, linguistic, nonlinguistic, concept of definition, word maps

Introduction

Throughout the primary grades, classroom instruction focuses primarily on teaching students how to read. Chall (1983) explains that students in second and third-grade read to confirm what they already know. At this stage, students "gain courage and skill in using context and thus gain fluency and speed" (Chall, 1983, p. 19). Beginning in fourth-grade, students transition from learning to read to reading to learn new information (Chall, 1983). Students are expected to independently read content area texts to gain knowledge of the concepts taught. They must also understand a great number of vocabulary words to successfully participate in and comprehend academic discussions. However, some students lack the necessary vocabulary to successfully accomplish these tasks. Vocabulary knowledge has a significant impact on comprehension, fluency, and achievement (Bromley, 2007). This holds true for all content areas, including science - thus vocabulary must be explicitly taught. One approach to direct vocabulary instruction in science is the use of a concept of definition word map. A concept of definition word map is a graphic organizer developed by Schwartz and Raphael (1985) that

provides categorized words linked to a central concept, illustrates examples, describes the properties of a word or concept, and provides a springboard for in-depth discussion on the central concept. Concept of definition word maps help students to access prior knowledge, remain actively engaged in the learning process, and make connections between new and previous knowledge.

Literature Review

Theoretical Framework. Pritchard (2009) explained the importance of learning styles to student success and the significant role they play in instruction. Learning styles can be defined as the manner in which an individual thinks, learns, processes information, and demonstrates their learning (Pritchard, 2009). Visual learners prefer information be presented in written form such as text, graphs, and displays; auditory learners respond best to discussions, lectures, and hearing stories; and kinesthetic learners prefer activities that elicit feelings or physical experiences. Additionally, Dunn and Dunn (1979) explained that learning styles consist of combinations of environmental, emotional, sociological, and physical elements. These elements involve the following factors: sound, light, temperature, design, structure, persistence, responsibility, motivation, working alone, working with peers, working with adults, time of day, and need for mobility. Dunn and Dunn (1979) found through their research that teachers often teach in the way that they themselves learned best, considering it to be the most effective. However, what works best for teachers is not always what works best for the students in their classrooms. Student achievement is increased when students are taught in a manner that aligns with their individual learning style (Dunn & Dunn, 1979; Pritchard, 2009). A concept of definition word map provides teachers with the opportunity to meet the needs of students with various learning styles. Visual learners may be engaged by the organized written text, auditory learners through in-depth discussion of the concept, and kinesthetic learners by the feelings elicited from the personal connections and stories discussed about the concepts. Furthermore, the graphic organizer provides structure for those students that need it and can be completed alone, with peers, or with the teacher. This variety increases the chance of reaching every learner and aids in storing the information in long-term memory.

Vocabulary Instruction. Some students struggle with the vocabulary presented in science instruction and texts, limiting their scientific communication skills. Vocabulary development is important because it is directly related to a student's ability to comprehend content area texts and concepts (Bromley, 2007; Cohen, 2012; Manzo, Manzo, & Thomas, 2006). According to Gillis (2015), Johnson and Pearson (1984), and Rupley, Nichols, Mraz, and Blair (2012), students learn new vocabulary by accessing prior knowledge and relating it to words and concepts already familiar to them. This enables them to "develop, expand, and refine the concepts that word represents" (Rupley et al., 2012, p. 302). Many scholars have asserted that once students have sufficient background knowledge, they must be actively involved in the explicit teaching of

techniques for discovering vocabulary meaning, pronunciations, and word parts (Johnson & Pearson, 1984; Roberts & Truxaw, 2013; Rupley et al., 2012).

Johnson and Pearson (1984) designed an activity-based framework for vocabulary instruction in reading, which includes the use of semantic maps. They suggested that teachers choose a key word from the unit, list it on the board, solicit related words from the students through brainstorming, organize the words into categories, write the categorized lists on the board around the unit word, and lead an in-depth discussion with students about the completed map. They wrote that sematic mapping is highly beneficial during group instruction because students are listening to one another's ideas and are practicing using the words in meaningful communication.

Schwartz and Raphael (1985) refined Johnson and Pearson's (1978) semantic map and developed the concept of definition word map as part of an undergraduate study skills class. Like semantic maps, a concept of definition word map is a graphic organizer that provides categorized words linked to a central concept - however, it also illustrates examples and describes the properties of a word or concept. They next applied the concept of definition word map in instructional research with students in eighth-grade science and fourth-grade reading. Schwartz and Raphael explained that the concept of definition word map stresses the importance of students being able to figure out the meaning of a word on their own, teaches them what information makes up a definition, how to use context clues, and how to use background knowledge to increase their understanding of words used in content areas other than reading. Students are explicitly taught to locate general concept words to categorize the vocabulary word, use details to describe the word, and refine their thinking to find examples. This process involves using context clues, generating and writing definitions, using resources such as dictionaries, and eventually internalizing the process.

Gillis (2015) described the importance of vocabulary instruction in not only reading, but math, science, and social studies as well. She suggested the use of the concept of definition word map to help students "deepen their understanding of the technical vocabulary associated with concepts in English, mathematics, science, and social studies" (p. 282). Gillis (2015) also noted that the concept of definition word map can be adapted to work for a variety of vocabulary terms and that they are effective when studying words that have multiple meanings.

Nonlinguistic Representations. To increase students' ability to store and retrieve information in permanent memory, students need to process information in linguistic and nonlinguistic ways (Marzano, 2004). Cohen (2012) discussed the effectiveness of incorporating imagery, or nonlinguistic representations, with direct vocabulary instruction in science. Content areas, such as science, have copious amounts of unknown vocabulary that are essential to students comprehending the concepts being taught. The author suggests integrating imagery with direct vocabulary instruction as an effective strategy for increasing vocabulary knowledge. Cohen explained that illustrations provide students with visual clues to help connect words to their meaning and commit them to memory. The effectiveness of imagery can be increased if

students create the images themselves, with or without teacher assistance, and combine them with the use of semantic maps.

Dual Coding Theory suggests that both verbal processing and nonverbal representations are needed to develop knowledge and meaning, as well as to commit these to memory (Sadoski, 2005). Sadoski (2005) explained that the verbal code, or linguistic representation, consists of speech and written words, while the nonverbal code, or nonlinguistic representation, involves images of objects or events. The prime cognitive method of nonverbal representation is mental imagery and is linked to the development of specific word meaning (Sadoski, 2005). Concrete language elicits a web of related words to help readers make connections to prior knowledge, while simultaneously provoking mental images related to those words. The combination of verbal and nonverbal representations (linguistic and nonlinguistic) activate both the right and left hemispheres of the brain, therefore attending to individual differences in learning and increasing the chance that vocabulary knowledge is stored in long term memory (Sadoski, 2005).

Methodology

Research Questions. There is an abundance of research (e.g., Elleman, Lindo, Morphy, & Compton, 2009; NICHD, 2000; Stahl & Fairbanks, 1986) reflecting the importance of vocabulary development on comprehension in the reading classroom, as well as strategies to improve vocabulary knowledge. However, limited research is available on how vocabulary development and associated strategies can be extended to the science classroom to improve student success with concepts and comprehension of texts. The purpose of this study was to examine the efficacy of teaching science vocabulary using the concept of definition word map. The researcher sought to determine its effect on students' vocabulary knowledge and how students used the concept of definition word map to support their understanding of content area texts and/or concepts.

Context. The study was conducted with a sample of convenience. Thirty-seven fourth-grade students from two of the researcher's class periods participated in the study. One class period consisting of 19 students, three of which were ELLs, received intervention in line with this research. Another class period consisting of 18 students, three of which were ELLs, served as a control group. The students were given a pre-survey and pretest to determine a baseline. There were no statistically significant differences between the two groups based on the pre-survey and pretest measures, and Levene's f statistic was not significant, therefore, pre-experimental equivalence was assumed. The researcher's remaining class period, consisting solely of students in the Gifted and Talented program, was excluded from the research.

The participants were from a medium sized, southern, suburban elementary school, which serves 595 fourth and fifth-grade students. The student population was 1.4% African American, 63.9% Hispanic, 32.9% White, .5% American Indian, 1.4% Asian/Pacific Islander, 48.7% economically disadvantaged, and 4.7% ELL. The intervention group was 63.2% Hispanic, 31.6%

White, and 5.3% Asian, 36.8% economically disadvantaged, and 15.8% ELL. The control group was 73.7% Hispanic, 26.3% White, 52.6% economically disadvantaged, and 15.8% ELL.

Data Collection and Procedures. This study was conducted using a mixed, quasi-experimental approach. A pre- and post survey and pre- and posttest were utilized for quantitative data collection and analysis, as well as to inform future vocabulary instruction. Qualitative data was collected in the form of focus group transcriptions, student work samples, and teacher observations. Work samples were obtained and teacher observations were made after each of the ten student-completed concept of definition word map lessons.

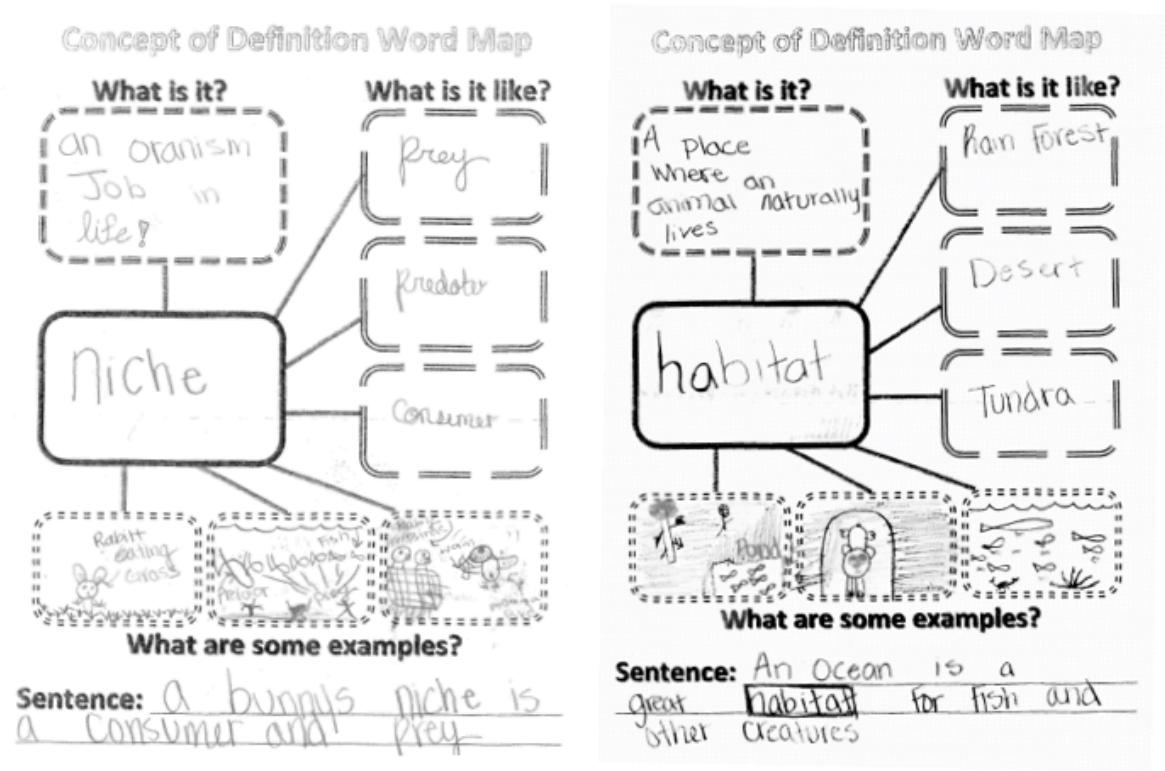
To determine a baseline, the first piece of quantitative data was collected by giving the students a pre-survey (see Appendix B) to determine their background knowledge and assess their ability to independently generate correct definitions for each vocabulary word. Students were asked to mark whether they did not know the word at all, had heard of it but did not know what it meant, or knew it and could write a brief definition. For example, one word on the vocabulary survey is 'species'. Students completed one of the following actions: placed a check mark in the column labeled "I do not know this word at all", placed a check mark in the column labeled "I have seen this word, but I cannot define it", or they indicated that they knew the word by writing a definition. The survey was adapted from Bruun, Diaz, and Dykes (2015).

A second piece of quantitative data was collected by giving the students a pretest (see Appendix C) to assess their vocabulary knowledge when given definition choices. The test was formatted as a matching activity. The students were given a list of vocabulary words and definitions and asked to match each definition to the correct vocabulary word. For example, for the word 'species', students read a list of definitions and identified "A group of organisms with similar characteristics that allow them to reproduce" as the correct definition. Students repeated this process for each word on the vocabulary list.

The study was conducted during the second semester of the school year. Although many related concepts are taught in previous grade levels, the researcher could not attest to whether students received instruction on the specific vocabulary words in the study or to what extent they may have been taught. The words were not taught or discussed by the researcher prior to the intervention. During week one of the study, the students were introduced to two vocabulary words through the context of classroom science lessons. Words were not directly taught; rather, as the teacher presented lessons and activities, the students had to draw conclusions about each word's meaning. As each lesson progressed, the teacher stopped periodically to allow students to reflect on what they had discussed and guided them through completing the concept of definition word map (see Appendix A) for each vocabulary word through teacher demonstration. Teacher demonstration for the first two vocabulary words consisted of briefly brainstorming ideas with the students of what could be written in each box of the word map and allowing them to individually choose which ideas they would like to write

on their paper. Students recorded information on the concept of definition word map in their own words and using their own graphic representations (see Figure 1). After each concept of definition word map was completed, work samples and teacher observations were collected to provide qualitative information on the students' understanding of each vocabulary word. The control group received vocabulary instruction in line with the school's curriculum. This instruction entailed students looking each vocabulary word up in their textbook's glossary, making a notecard for each word, a corresponding notecard for each definition, mixing the cards up, and working with a partner to match each word to its definition.

Figure 1: Student Completed Concept of Definition Word Maps



The students learned three vocabulary words each week during weeks two and three of the study. The amount of teacher support provided during the lessons to complete the concept of definition word maps was gradually released, allowing students to work more independently. Students learned two vocabulary words during the fourth week of the study and completed the graphic organizers independently. Students could jot down their thoughts on the graphic organizer at any point during the lessons. After each concept of definition word map was completed, work samples and informal teacher observations were collected to provide qualitative information on the students' understanding of each vocabulary word. Informal teacher observation focused on student engagement. To determine vocabulary growth, the students also completed the post survey and posttest at the end of the fourth week.

On the last day of the study, a focus group was held and transcribed. Member checking was employed to establish trustworthiness of focus group transcriptions. After transcription, students' responses were analyzed to identify emerging categories, determining if there were any common themes. Data was coded for the following categories: allowing students the ability to see or visualize what a word means, increasing vocabulary knowledge, how students use that knowledge, and student excitement. Student concept of definition word map samples and teacher observations were also used to collect qualitative data.

Results and Discussion

Each This quasi-experimental study examined the effects of teaching science vocabulary utilizing the concept of definition word map on the vocabulary knowledge of fourth-grade students as compared to the strategies usually used to teach vocabulary in this setting. Using a sample of convenience, 37 fourth-graders from two of the researcher's class periods participated in the study. One class period, consisting of 19 students, served as the intervention group. Another class period, consisting of 18 students, served as a control group. The participants were administered a pre- and post survey and pre- and posttest to determine vocabulary knowledge growth.

The researcher created the vocabulary survey and vocabulary test. To establish validity, both assessments were peer reviewed by two colleagues to determine if they were effective measures of the vocabulary words contained within the study. Peer review was also used if the researcher had any doubts as to the correctness of student created definitions on the vocabulary survey.

Pre- and Post survey: Independently Generate Definitions. Students were given a vocabulary survey at the beginning and end of the study to determine their ability to independently define science vocabulary words. Students were asked to mark whether they did not know the word at all, had heard of it but did not know what it meant, or knew it and could write a brief definition. A paired sample *t*-test was conducted to evaluate the impact of the intervention on students' vocabulary knowledge. There was a statistically significant difference in vocabulary scores from pre-survey [M=26.84, SD=16.00] to postsurvey [M=66.31, SD=19.78, $t(18)$= -9.06, $p<0.001$] for the intervention group, thus the null hypothesis was rejected. There was also a statistically significant difference in vocabulary scores from pre-survey [M=31.11, SD=22.20] to postsurvey [M=54.44, SD=19.77, $t(17)$= -6.02, $p<0.001$] for the control group. The effect size, measured using Cohen's d, was large (d=2.19). The control group's eta squared statistic (d=1.11) indicated a large effect size as well. These results are summarized in Table 1.

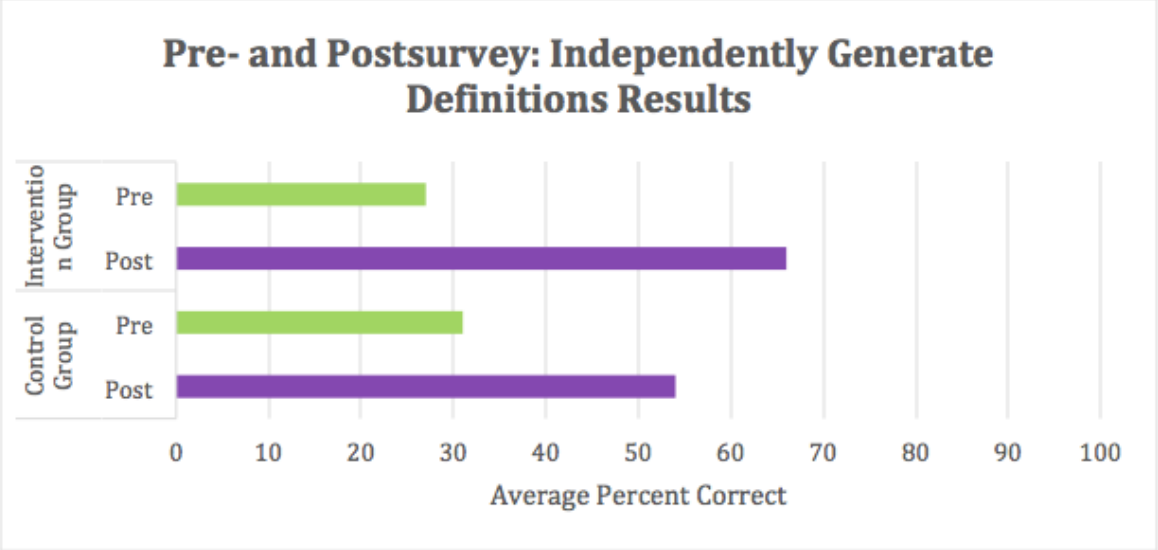
Table 1: Paired Samples T-Tests for Pre and Post Survey: Independently Generate Definitions

Measure	Presurvey M (SD)	Post survey M (SD)	T	*p*	ES[a]
Treatment (n=19)	26.84 (16.00)	66.31 (19.78)	-9.06	<0.001	2.19
Control (n=18)	31.11 (22.20)	54.44 (19.77)	-6.02	<0.001	1.11

Note. ES, effect size as measured by Cohen's d., 2 = small, .5 = medium, .8 = large

The pre- and post survey results are also shown in Figure 2. Students in the treatment group made higher scores than the control group by the end of the study. The treatment group also made greater gains than the control group, 39 points and 23 points respectively.

Figure 2: Pre- and Post survey: Independently Generate Definitions Results



The results of the vocabulary surveys indicate that the students' ability to independently define vocabulary words was significantly increased by utilizing a concept of definition word map during science instruction. These results support the researcher's hypothesis that the concept of definition word map was effective in developing science vocabulary knowledge. The findings also suggest that the students had a deeper understanding of the vocabulary words' meanings and may be more successful in classroom science discussions, thus positively impacting student learning.

Pre- and Posttest: Matching. Students were given a vocabulary test at the beginning and end of the study to determine their ability to match words to the correct definitions. The students were given a list of vocabulary words and definitions and asked to match each definition to the correct vocabulary word. There was a statistically significant difference in vocabulary scores from pretest [*M*=53.68, *SD*=25.21] to posttest [*M*=72.63, *SD*=20.77, *t*(18)= -4.32, *p*<0.001] for the intervention group, thus the null hypothesis was rejected. There was also a statistically significant difference in vocabulary scores from pretest [*M*=56.67, *SD*=19.70] to posttest [*M*=78.89, *SD*=25.87, *t*(17)= -2.99, *p*<0.01] for the control group. The effect size, measured using Cohen's *d*, was large (*d*=.82). The control group's eta squared statistic (*d*=.97) indicated a large effect size as well. These results are shown in Table 2.

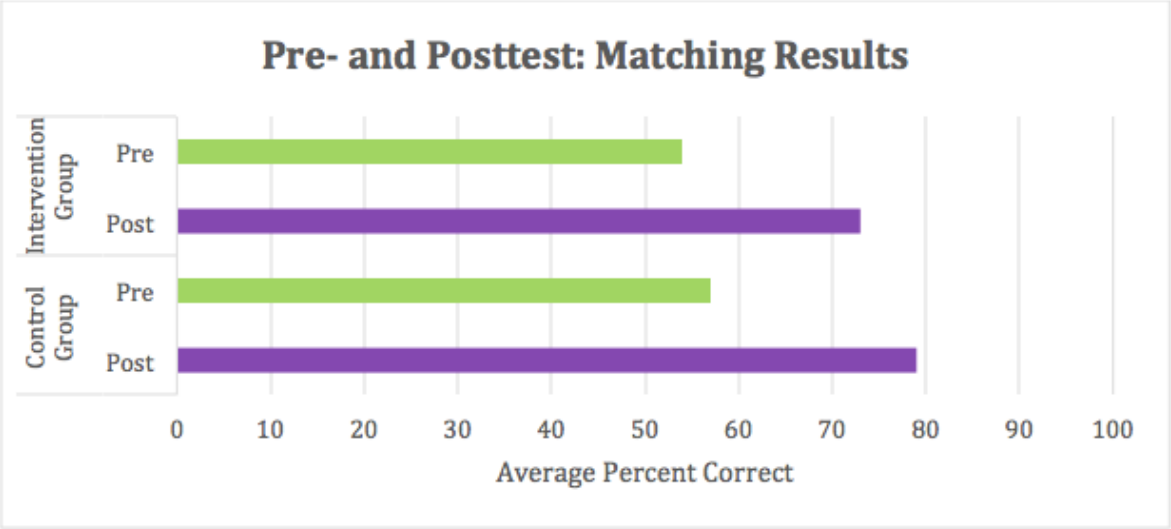
Table 2: Paired Samples T-Tests for Pre and Posttest: Matching

Measure	Pretest M (SD)	Posttest M (SD)	T	*p*	ES[a]
Treatment (n=19)	53.68 (25.21)	72.63 (20.77)	-4.32	<0.001	0.82
Control (n=18)	56.67 (19.70)	78.89 (25.87)	-2.99	<0.01	0.97

Note. ES, effect size as measured by Cohen's d., .2 = small, .5 = medium, .8 = large

The pre- and posttest results are also shown in Figure 3. The control group earned higher scores than the intervention group by the end of the study. Students in the intervention and control groups made similar gains from the beginning of the study to the end, 19 points and 22 points respectively.

Figure 3 Pre- and Posttest: Matching Results



The results of the vocabulary tests indicate that students' vocabulary knowledge through matching words to definitions increased as well, although at a lower rate than the control group. These results did not support the researcher's hypothesis in all aspects. Although the students' scores increased significantly, they did not surpass the scores of the control group. Although the vocabulary matching test was an effective measure of the vocabulary words and was written at a level appropriate for fourth-grade students, not all students read on grade level. This may have limited students' performance on the test and may be better administered in the future if read aloud to students.

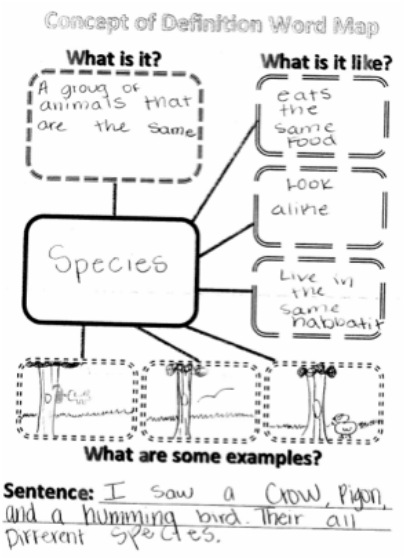
Qualitative Analysis. This study also sought to determine the ways in which students can use the concept of definition word map to support their understanding of content area texts and/or concepts. At the completion of the study, a focus group was conducted to determine common themes about how the students use the concept of definition word map to aid in their comprehension of science discussions and concepts and their feelings towards using it. The focus group was guided by the following questions:

1. We have been working on this new graphic organizer. Can you tell me how it's helped you or how it might help you in the future?
2. Where might you see the words?

Student responses were transcribed and member checking was employed to establish validity. Analysis of student responses to identify emerging categories revealed the following themes: allowing students the ability to see or visualize what a word means, increasing vocabulary knowledge, how students use that knowledge, and student excitement. The researcher also analyzed work samples completed by students during the time of the intervention and recorded observational notes.

The students in the focus group indicated that using the concept of definition word map to learn vocabulary meanings helped them to visualize the word to better understand it. One student responded, "It shows me examples and pictures of it and it makes me understand the word more." Another student said, "It helps me imagine what the word means." Figure 4 shows a student-completed concept of definition word map.

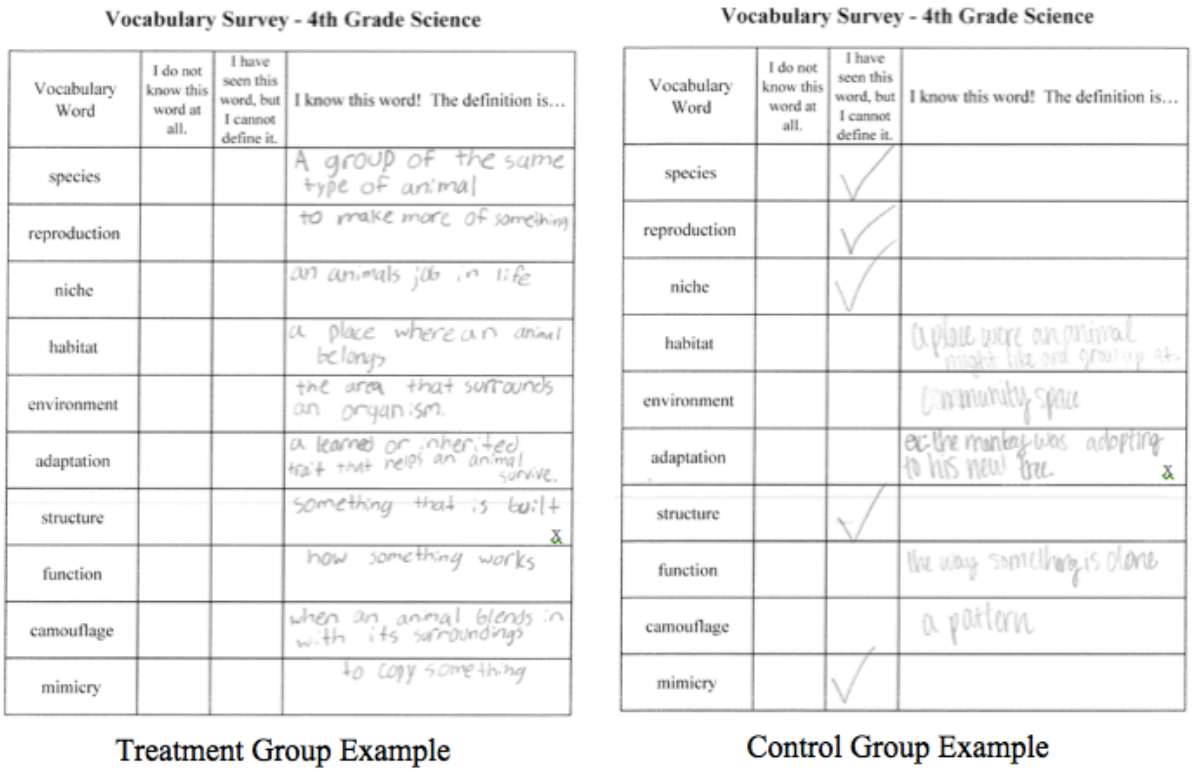
Figure 4: Student Completed Concept of Definition Word Map



The responses provided in the focus group indicated that the students felt their vocabulary knowledge had increased from the beginning of the study to the end and that their knowledge of vocabulary words can help them when reading. One student declared, "I started knowing what all the words meant and it'll help me if one of the words is in a book." The students also specified that their knowledge will help them know what a word means if they see the word on a sign, poster, or on the Internet. Another student stated, "In the future we might run into the words and then we know what it is."

While completing the post survey, the researcher observed that students in the intervention group were much more confident in independently composing and writing vocabulary meanings than the control group (see Figure 5). Students in the intervention group wrote the definitions independently, while students in the control group were hesitant to write their thoughts and raised their hands to ask for assistance on a regular basis. The results from the post survey support this observation.

Figure 5: Student Completed Postsurveys



Vocabulary Survey - 4th Grade Science

Vocabulary Word	I do not know this word at all.	I have seen this word, but I cannot define it.	I know this word! The definition is…
species			A group of the same type of animal
reproduction			to make more of something
niche			an animals job in life
habitat			a place where an animal belongs
environment			the area that surrounds an organism.
adaptation			a learned or inherited trait that helps an animal survive.
structure			something that is built
function			how something works
camouflage			when an animal blends in with its surroundings
mimicry			to copy something

Treatment Group Example

Vocabulary Survey - 4th Grade Science

Vocabulary Word	I do not know this word at all.	I have seen this word, but I cannot define it.	I know this word! The definition is…
species		✓	
reproduction		✓	
niche		✓	
habitat			a place where an animal might live and growing at.
environment			community space
adaptation			ex: the monkey was adapting to his new tree.
structure		✓	
function			the way something is done
camouflage			a pattern
mimicry		✓	

Control Group Example

The researcher observed that students in the intervention group became more excited to learn new vocabulary words as the study progressed. During the first week, students gave short descriptions out loud during classroom discussions and on the graphic organizer, with only a few students raising their hand to share their ideas. By the end of the study, most students were excited to share their independently generated definitions with the class. Students also showed increased eagerness to create sentences with each word at the bottom of the graphic organizer. During the first week, students needed assistance to create a sentence using the day's vocabulary word. However, after the intervention, several students asked if they could write more than one sentence using the vocabulary word.

Implications and Conclusion

The purpose of this study was to examine the teaching of science vocabulary using the concept of definition word map on students' knowledge and comprehension of science texts and concepts. This research study provides evidence of positive outcomes in the use of the concept of definition word map for vocabulary instruction in science classrooms. Utilizing the concept of definition word map increased vocabulary knowledge by allowing students to access background knowledge, make connections between new and prior knowledge, construct

definitions independently, explore examples and non-examples, and visualize a word's meaning in an engaging manner, thus increasing comprehension of content area texts and concepts.

The results of the survey, test, and researcher observations support the findings of Schwartz and Raphael (1985) and Gillis (2015). They demonstrate how the concept of definition word map helped students use details to describe the words, refine their thinking to find examples, and generate their own definitions. The results of the focus group support the findings of Cohen (2012) and indicate that integrating imagery, or nonlinguistic communication, with vocabulary instruction was an effective strategy for increasing the students' vocabulary knowledge.

As vocabulary development is directly related to a student's ability to comprehend content area texts and concepts (Bromley, 2007; Cohen, 2012; Manzo, Manzo, & Thomas, 2006), developing vocabulary knowledge is crucial to student success. Utilizing the concept of definition word map offers teachers the opportunity to directly teach vocabulary in a meaningful and engaging manner and allows students to utilize both linguistic and nonlinguistic representations to commit vocabulary to long-term memory.

Taking all data into consideration, the results suggest that students in the intervention group may be more successful in comprehending classroom lessons and content area texts and have an increased ability to apply this knowledge in daily life situations than the control group. The research-based knowledge provided by this study will enable both the researcher and the teachers on the researcher's campus to redesign their science vocabulary instruction to ensure future student success. The concept of definition word map will be utilized as the primary source of vocabulary instruction within each teaching unit, providing students with the opportunity to brainstorm ideas, use details to describe words, utilize background knowledge, use both linguistic and nonlinguistic representations, and participate in in-depth discussions to increase their understanding of science vocabulary. Students will be slowly guided through creating the concept of definition word map on their own in a vocabulary journal, reducing their reliance on a pre-printed graphic organizer, therefore helping them to internalize the process.

This study can be expanded upon by researching student comprehension of science texts before and after the study through running records and teacher-student conferences. Lengthening the study to a full semester or entire year to gather more data and including more participants in the fourth-grade or other grade levels would be beneficial as well. To further research the effectiveness of the concept of definition word map, researchers could also apply the strategy in other content areas such as social studies and math.

About the Author

Kimberly Jones is a Mathematics Gap Intervention Specialist in Gregory-Portland ISD, she has twenty years of elementary classroom teaching experience, and is currently working on her Ph.D. in Curriculum & Instruction at Texas A&M University – Corpus Christi. Her dissertation research is focused on utilizing the Concrete-Representational-Abstract sequence of instruction with Tier 3 students in a Response to Intervention model. Her free time is spent reading and going on outdoor adventures with her dog Berkley. Email: KimberlyJones8246@yahoo.com

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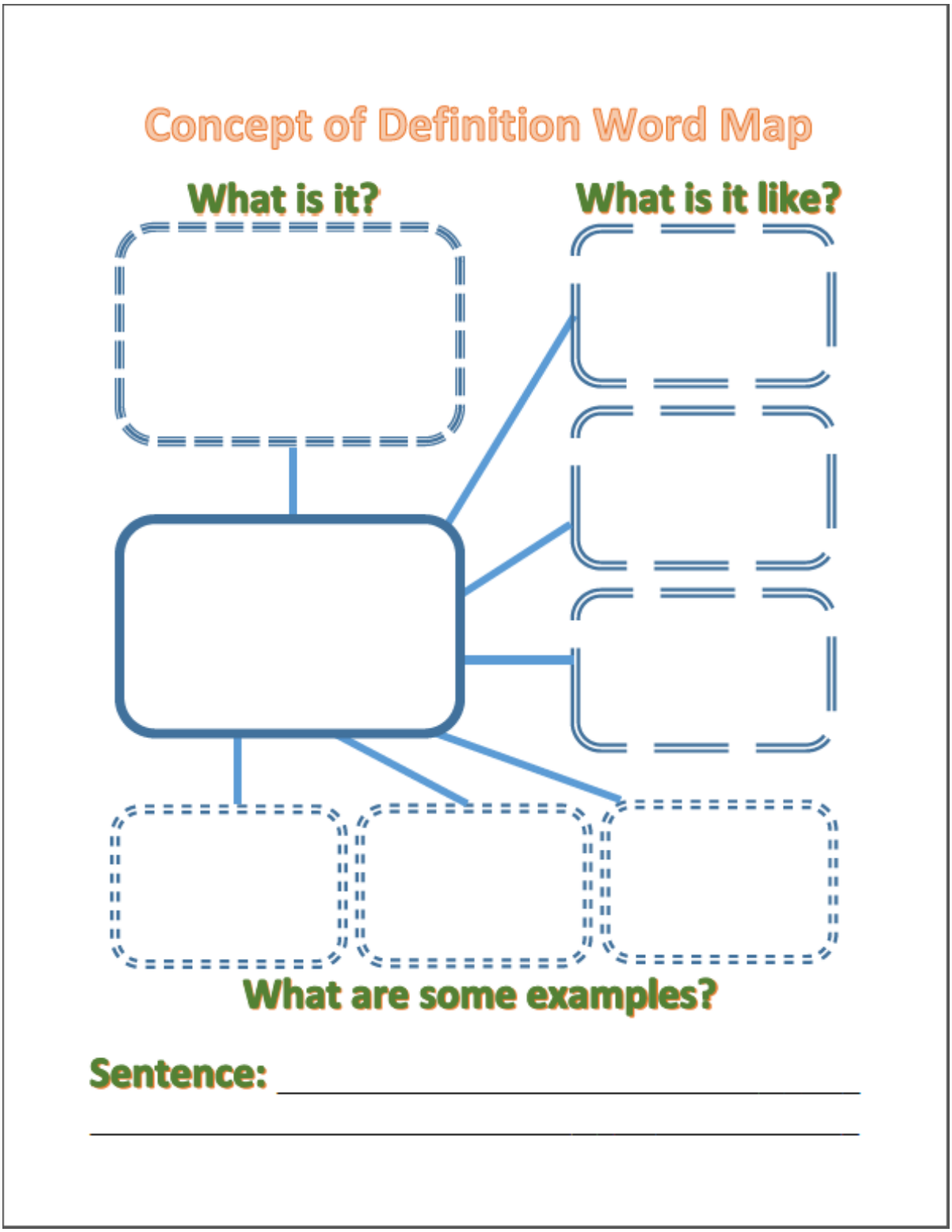
Appendix A: Concept of Definition Word Map



Appendix B: Vocabulary Survey

Name _____

Vocabulary Survey - 4th Grade Science

Vocabulary Word	I do not know this word at all.	I have seen this word, but I cannot define it.	I know this word! The definition is…
species			
reproduction			
niche			
habitat			
environment			
adaptation			
structure			
function			
camouflage			
mimicry			

Appendix C: Vocabulary Test

Student Name _____ Date _____

Adaptations Vocabulary Test

Directions: Write the letter for each definition on the blank next to the corresponding word.

____ species	a. The living and nonliving things around an organism.
____ reproduction	b. A role an organism plays in its environment.
____ niche	c. A group of organisms with similar characteristics that allow them to reproduce.
____ habitat	d. The act of making something new.
____ environment	e. A place or environment where an organism naturally lives.

Student Name _____ Date _____

Adaptations Vocabulary Test Continued

Directions: Write the letter for each definition on the blank next to the corresponding word.

____ adaptation	a. Characteristics that blend in with the surrounding environment that increase chances of survival.
____ structure	b. The resemblance of an organism to another organism that gives it a better chance of survival.
____ function	c. An inherited trait or learned behavior that helps an organism survive in its surroundings.
____ camouflage	d. The way something works or what it can do.
____ mimicry	e. A body part on an organism.