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# Conceptual Understanding and Retention of Vocabulary for Visual Learners

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**Abstract**

This research paper investigates methods that promote conceptual understanding and retention of middle school, content area vocabulary for visual learners. Existing research suggests the methods of social interaction, visuals, word manipulation, contextual analysis, authentic connections, and self-selection to significantly influence vocabulary development. These methods were tested within “The Circular Vocabulary Strategy” to determine their effectiveness. Authentic connections and social interaction were found to most significantly create conceptual understanding and retention, while self-selection, word manipulation, and visuals increased motivation and promoted task manageability; contextual analysis acted as a guide in understanding, and the unintentionally examined method of repetition aided in information recall. These findings generally imply an interactive classroom environment with adult guidance, scaffolding, and modifications is essential to conceptual understanding and retention of vocabulary.

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Conceptual Understanding and Retention of Vocabulary for Visual Learners

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Abstract

This research paper investigates methods that promote conceptual understanding and retention of middle school, content area vocabulary for visual learners. Existing research suggests the methods of social interaction, visuals, word manipulation, contextual analysis, authentic connections, and self-selection to significantly influence vocabulary development. These methods were tested within “The Circular Vocabulary Strategy” to determine their effectiveness. Authentic connections and social interaction were found to most significantly create conceptual understanding and retention, while self-selection, word manipulation, and visuals increased motivation and promoted task manageability; contextual analysis acted as a guide in understanding, and the unintentionally examined method of repetition aided in information recall. These findings generally imply an interactive classroom environment with adult guidance, scaffolding, and modifications is essential to conceptual understanding and retention of vocabulary.

### **Conceptual Understanding and Retention of Vocabulary for Visual Learners**

At birth, children are immersed in both oral and written language through which they interact with the world. Throughout a child's development and academic years, he or she must acquire words to mentally process information and effectively communicate meaning through oral and written expression (Rule, 2006). The successful acquisition of vocabulary is thus an imperative communication tool and component of a successful individual who understands both reading and writing skills and expression (Rose, 2004). Due to its critical significance in development, this action research project will investigate and analyze vocabulary comprehension and retention within the middle school content area classroom setting.

There is a directly proportional and contingent relationship between background knowledge and vocabulary acquisition essential to conceptual learning and development; to acquire vocabulary, one must have a strong background, and to have a strong background, one must acquire vocabulary. All children enter school with prior knowledge and experiences to make connections with and utilize in the growth and expansion of concepts represented by words (Rupley & Slough, 2010), however, this background is inconsistently developed among children (Nixon, 2009). It is often a lack of prior knowledge to construct meaning from new words that impedes understanding, as opposed to weak reading skills (Rule, 2006). A child's level of background information is thus an indicator for how well they will acquire new information and vocabulary (Marzano, 2004). Students with a limited background knowledge of a particular topic often require opportunities of preteaching and reteaching before and during instruction to create associations and conclusions needed to understand new language and concepts. On the other hand, students who have a strong prior knowledge learn new concepts and vocabulary quickly and readily without this extensive support (Marzano, 2004).

Inversely, to build a stronger prior knowledge and background in a child who is limited, the acquisition of vocabulary is essential. Vocabulary acquisition builds a strong foundation of knowledge to construct new and conceptual understandings. Through learning and developing words and making associations and conclusions among these words, one is able to label the information in his or her repertoire with vocabulary (Marzano, 2004). Therefore, building vocabulary in turn builds background knowledge, and leads to quicker and greater understanding.

The accuracy with which one expresses his/her vocabulary not only affects how others perceive the person, but how the person views him/herself (Goerss, Beck, & McEown, 1999). Society's impression of an individual is shaped by the person's ability to communicate through effective language and vocabulary (Hamilton, 2005). As most people are able to utilize some form or sense of language communication, people are often critical of one another's use and implementation of language variations within oral and written communication (Hamilton, 2005). Proving that prejudices exist throughout cultures, society stresses the superficial aspects of language, such as conventions and syntax, as a way of determining and representing ability (Gee, 2001). This causes educators to spend the majority of literacy instruction focusing on teaching phonics and correcting surface structure, at the expense of spending crucial time modeling and guiding critical thinking and comprehension (Kucer, 2005). Beyond the particularities of dialect, without a continual focus on vocabulary building, retention, and application, a child's ability to communicate correctly and receive and develop respect is at risk.

I am currently working as a Special Education Teacher at the Middle School level. My students participate in an inclusion setting and must engage in a demanding curriculum of specific content area concepts of which low frequency vocabulary words are a crucial element to

understanding. Many of these students are classified with a learning disability that impedes their ability to comprehend and process verbal and auditory information. Acquiring and applying content area vocabulary is thus a challenge, as vocabulary is often initially instructed verbally. Without a strong grasp of this new language, the students struggle to develop a deep, holistic understanding, impacting their assessment scores and ability to make progress into comprehending higher-level concepts. Therefore, discovering vocabulary instruction strategies that best assist visual learners in understanding and retention of vocabulary appears to be an area in need of research.

### **Theoretical Framework**

Literacy is often described as multifaceted due to its various linguistic, cognitive, and sociocultural dimensions (Larson & Marsh, 2005). It is the sociocultural dimension, however, that primarily impacts acquisition and informs the definition of literacy. From the perspective of the Sociocultural Theory, literacy is essentially a matter of social practices, developed by community, institutional, and cultural relationships (Larson & Marsh, 2005). Actual acquisition of a skill requires the participation in activities along with the guidance and support of adults whom have expertise in the area (Larson & Marsh, 2005).

The role adults, teachers, and caregivers play in influencing and shaping a child's ability to develop and acquire literacy skills is crucial. People in these roles must not only teach through demonstrating correct language use, but also must engage children through creating a system of support that increases their responsibility and independence as they grow (Larson & Marsh, 2005). When the child begins to learn an aspect of literacy through activity, the adult can slowly deconstruct the support system to allow the child to build independence in that area (Larson & Marsh, 2005). It is essential during vocabulary instruction for the educator to begin by

scaffolding the instruction and tasks necessary in understanding this new language for the child to eventually be able to independently utilize and apply.

Literacy is also, “the mastery of our fluent control over a secondary discourse” (Gee, 2001, 529). While primary discourses constitute an informal interaction between close members, secondary discourses are applied in all other significant and purposeful interactions (Gee, 2001). A person must therefore develop numerous secondary discourses to employ in the multiple circumstances and interactions they will inevitably encounter with members outside of their “intimates” (Gee, 2001, 527), of which vocabulary building is essential to the development of. Locations for implementing secondary discourses, including schools and businesses, often command the use of multiple discourses that display the correct, communicable speaking and writing skills particular to the given situation (Gee, 2001). It is when a person has effectively mastered or controlled a secondary discourse that truly defines literacy acquisition and management to the fullest efficiency (Gee, 2001).

Literacy acquisition is mainly guided by correlating developmental principles and patterns of oral and written discourse. Every language learner is born with the desire to interact, bond, and communicate with others, and thus is born with the desire to acquire oral and written discourses (Kucer, 2005). Contrary to previous assumptions, this desire does not manifest itself through simple repetition and mimicking. Children are similar to scientists as they grow, develop, and become curious of their surrounding environment (Goodman, 2001). When engaged in literacy events, children are active participants in their environment, observing their surroundings and constructing numerous hypotheses as they explore literacy (Kucer, 2005). Providing opportunities for exploration and inquiry during vocabulary acquisition thus aids in understanding and retention. Not only will students be given structured times to utilize the

natural skill of exploration, but the act of searching and discovering given guidance and moderate assistance may also increase future independent practice.

The phrase, “learning language is learning how to mean,” most accurately depicts the comparable developmental principals of oral and written language (Goodman, 2001, 317). As children grow, they discover that each language system is an avenue to communication through representing meaning (Goodman, 2001). This initial discovery is usually reflected in childhood drawings created to represent objects or ideas in reality (Goodman, 2001). Children often perceive print to “say” the name of the picture, and vice versa; the letters d-o-g represent the picture of a dog, and the child “says” dog. This behavior signifies a child’s comprehension of the equivalence between oral and written language, and also his or her ability to create meaning from and related to personal experience (Goodman, 2001). While children will not always have a direct personal experience to draw meaning from to assist in word comprehension, this stage implies that mnemonic devices, memory strategies, and making connections will be helpful strategies in acquiring vocabulary. If the new word or concept can be created into something with which the child does have familiarity, the ability to retain will increase.

Through the process of literacy acquisition, children learn to engage in productive oral and written language activities executed deliberately and intentionally for a purpose (Goodman, 2001). Connections are made between what printed word in specific circumstances generally indicates; for example, print viewed on street signs tells the driver or walker to be cautious (Goodman, 2001), suggesting that utilizing visuals along with written language will aid in vocabulary acquisition. This recognition that oral and written communications are comparable implies a picture cue of the vocabulary term can evoke the meaning of the word.

Children must finally master the linguistic principles and conventions of a language similarly in oral and written language systems to fully acquire literacy. Children begin to first grasp the phonologic, syntactic, semantic, and pragmatic systems of language orally before using them in written form (Goodman, 2001). A child continuously inventing and modifying a spelling system based on his or her current knowledge of phonics is an accurate demonstration of his or her attempt to independently master language and communicate successfully (Goodman, 2001). Given the child's final focus on these principles and conventions, asking a child to segment a word into pieces to discuss word parts and origins could assist him or her in understanding and retaining the word, as they can break the word into more manageable pieces.

### **Research Question**

Given that literacy is a social practice and learning occurs during social interaction between adults and students to assist in mastering a secondary discourse, this action research project asks, what classroom methods promote conceptual understanding and retention of vocabulary for visual learners?

### **Literature Review**

#### **Complexities of Vocabulary**

Vocabulary knowledge is often viewed by researchers as “complex” and “multidimensional in nature” (Lasaux, Kieffer, Faller, Kelley, 2010, 197). These adjectives have been carefully selected to describe this skill, as word comprehension ultimately requires all of understanding the definition, its relationship among other words, and varying implications within context (Lasaux et al., 2010). While vocabulary words and conceptual knowledge can be regarded as exchangeable ideals, the comprehension of both is not as simple as one would assume (Harmon, Hedrick, Wood, & Gress, 2005). Johnson and Pearson (1984) explain that the relation between

word and concept can be visualized as an intricate mapping system that expands outward (as cited in Harmon et al., 2005). A person who demonstrates knowledge of a particular word also demonstrates knowledge of the smaller concepts within the word; for example, knowing about a specific battle of the Civil War demonstrates human understanding of associated words such as “North” and “South” (Harmon et al., 2005).

Further aiding in the multifaceted nature that is vocabulary, not all words that compose a language can be viewed similarly. Beck, McKeown, and Kucan (2002) explain that vocabulary words can be separated into three varying tiers; Tier one includes common everyday vocabulary, Tier two is composed of high frequency words which occur often in oral and written expression, and Tier three are content area specific words. Tier three words are comparatively less familiar, encountered, and utilized, and often possess more than one meaning; for example, the word “root” can mean “base” or refer to a specific part of a plant (Beck et al., 2002). Tier three words are decidedly the most difficult to instruct and retain due to the factors of unfamiliarity and complexity that influence its comprehension and acquisition (Beck et al., 2002).

### **Vocabulary Implications**

The recurrent critical analysis and examination of vocabulary acquisition over time directly stems from the various implications vocabulary development has on academic achievement. Rose (2004) states that a person’s vocabulary skills have been proven to indicate and predict how well he or she can and will comprehend text. Thus, Lervag & Aukrust (2009) argue that it is through comparisons in vocabulary development among individuals that similarities and differences of comprehension abilities are often determined. While students with strong vocabulary knowledge are strategic readers, possessing a deeper understanding of language and

its implications (Lesaux, et al., 2010), those with a limited vocabulary lack language skills and inevitably fall behind (Rupley & Slough, 2010).

In a much broader sense, Goerss, Beck, and McKeown (1999) state that vocabulary development is also used to determine cognitive intelligence and accomplishment on a variety of evaluations. Assessments that determine both personal and school achievement, for example, contain sections of verbal measurements to determine aptitude (Goerss et al., 1999). These results often dictate the level of respect and regard society places upon that particular person or institution (Goerss et al., 1999).

### **Learning Theories**

In determining the most effective vocabulary instruction, researchers must first begin by drawing upon a theoretical framework of literacy acquisition to support and reflect through this suggested instruction. Similar to the Sociocultural Theory, Vygotsky (1978) and Leont'ev (1981) believe knowledge is gained through the social and cultural influences and interactions people experience. Reflecting the ideas of McCormack (1997), Rosenblatt (1994), and Vygotsky (1978), Ruddell and Shearer (2002) reference the Social Constructivist Learning Theory, which comparably supports a direct correlation between social interaction and making meaning. This theory stresses the value and significance of social and language interaction on word comprehension and developing understanding (Ruddell & Shearer, 2002). Jean Piaget (1955), whose ideas are referenced and supported by numerous researchers such as Rule, Graham, Kowalski, and Harris (2006), believes children must interact with their surroundings to obtain knowledge and understanding from delving into their background of knowledge and experiences.

Ruddell (1994) argues that while human interaction, experiences, and inquiry are essential to comprehension, the strategies provided for vocabulary understanding and retention within

classrooms does not reflect this fundamental principal of meaning construction. When interacting with struggling readers, educators often falsely conclude that focusing on word reading, decoding, and fluency will increase the rate of reading and comprehension (Lasaux et al., 2010). Often times this instruction is done in social isolation through word list reading and memorization, and students are denied the crucial component of social interaction and support to acquire literacy (Lasaux et al., 2010).

### **Levels of Learners**

The specific learners and corresponding needs that may arise within an educator's classroom offer significant implications of the instruction required. The most common learners, and the one that best informs the purpose of this study, are the struggling readers, of which National Center of Education Studies (2003) reports there are approximately eight million across the nation at this time (as cited in Rupley & Slough, 2010). Valencia and Bully (2004) identify the types of struggling readers that emerge within this category as: the automatic word callers, who fail to read for comprehension; struggling, slow word callers, comprehenders, and stumblers who experience difficulties decoding; and disabled readers.

Disabled readers, as many Special Education students are identified, generally experience challenges with decoding, fluency, and comprehension (Rupley & Slough, 2010). Stanovich (1986) states that these students tend to read less than typical peers because of their challenges, encounter fewer low frequency words found within content areas, and have a more limited vocabulary bank. Barton and Heidema (2002) and Beers and Howell (2003) both reflect that lack of prior knowledge, weak memory skills, and a limited background knowledge further impede success within the specific subject areas where vocabulary development is crucial. A limited vocabulary coupled with less developed cognitive strategies for word learning interferes with the

student's ability to utilize the context for meaning, as many surrounding words within context are unknown as well (Lasaux et al., 2010). Since low frequency words are crucial to conceptual learning within the subject areas, it is essential that struggling readers develop word comprehension as well as word learning strategies (Harmon et al., 2005) These students also require vocabulary and background building activities as opposed to decoding instruction to build a foundation of understanding (Rupley & Slough, 2010).

### **Social Interaction**

To determine which methods of vocabulary instruction are most successful in conceptual understanding and retention, researchers have examined and tested a variety of approaches. In reviewing over ten articles, it was overwhelmingly concluded that allowing students to interact, collaborate, and discuss to acquire vocabulary were irrefutably successful. Permitting student discussion during instruction, for example, has been found to aid in understanding through providing further reinforcement and allowing for connection making and background building (Upadhyay & DeFranco, 2008). In regards to peer discussion, Raphael, Brock, and Wallace (1997) stated this strategy "provides students the opportunity to see how language is used as a symbol system for understanding and interpreting text and to engage in their own language practices..." Yet, the educator also provides a crucial part of this social interaction, since it is the teacher who offers guidance, creates lessons that allow for communication, and facilitates the activities (Ruddell & Shearer, 2002).

Most structured action research opportunities intentionally allow for some level of interaction among peers to assist in developing understanding and inevitably offered teacher direction, support, and scaffolding. Rose (2004) stated the importance of incorporating conversation during vocabulary instruction in her research, and was pleased with her students understanding of new

words after allowing them to research and discuss words within groups. Similarly, Nixon and Fishback (2009) discovered their opportunities for small group discussions of word relationships and sorting to be imperative in the comprehension demonstrated by the students. It was noted that students were able to work as independent groups, but could still rely on one another for task fulfillment and word comprehension (Nixon & Fishback, 2009). In a successful attempt to reinvent the Word Wall in yet another action research, students were placed into groups to perform a variety of tasks pertaining to a given word, such as placing the word within a contextual sentence (Harmon, Wood, Hedrick, Vintinner, & Willeford, 2009). Students were then asked to present their work to the class for further interaction and reinforcement of content for both group and audience members (Harmon et al., 2009).

Peer social interactions were taken a step further when students were instructed to create and perform plays as a way of participating in peer tutoring and teaching (Rule, Graham, Kowalski, Harris, 2006). Cohen, Kulik, and Kulik (1982) argue that this method of peer teaching and tutoring has been proven to benefit the child in both roles through increasing attitudes and academic success.

## **Visuals**

Research predominately reflects the implementation of visual aids and strategies in word recall and conceptual vocabulary understanding and retention. Adding a visual cue or picture to a word aids in comprehension and memory through triggering background knowledge and decreasing interpretation time (Hibbing & Erikson, 2003). Visuals have also been proven to enhance reading productivity for reluctant, struggling readers (Hibbing & Rankin-Erickson, 2003). Nilsen and Nilsen (2005) attribute this to the fact visual images are said to help students to “see” or visualize abstract word meaning and relationships. Blasingame & Nilsen (2005)

further delved into this theory by discovering vocabulary is not acquired through simply viewing a drawing, but by participating in the multisensory event of creating the illustration. Rose (2004) reported similar results after discovering students only retained Word Wall vocabulary through interacting with the words as opposed to simply viewing. Contrastingly, Joana Acha (2009) discovered presenting a word in isolation without a picture cue was more effective, as students can experience “cognitive overload” of information (28).

Most instructional tools and strategies contain some sort of visual aid or component that is accommodating for a visual learner. The use of Word Walls was utilized in a variety of action research as a tool to display content area vocabulary (Baumann, Ware, & Edwards, 2007). This concrete, visual tool not only creates and fosters vocabulary discussion, but expands a child’s vocabulary bank through exposure to multiple words (Harmon et al. 2009). For an interactive Word Wall activity that increased student achievement, students were asked to select a color to represent the word and create a representational image; for example, the word “futile” was colored gray and a person jumping out of a plane without a parachute was illustrated (Harmon et al., 2009). The researcher concluded the colors and symbols triggered memories about word recall during times of assessment (Harmon et al., 2009).

Further examples of visual tools and aids that can be incorporated within the classroom include flashcards, graphic organizers, and concept and word mapping (Clay et al., 2009; Rose, 2004). McCormick and Presely (1997) found that concept and word mapping supports writing activities, brainstorming, and organization and association of information, as the information is transferred from conceptual verbal language to concrete and tangible representations. Visuals can also be incorporated in word analysis to examine word parts such as suffixes and prefixes (Rose, 2004). “Root Word of the Week” is an activity Rose (2004) found helpful, in that it visually

posts the base of a word and its definition within the classroom, allowing for students to add related words to the display for reference and utilization in oral and written communication.

Within recent years the amount of technology that offers visual-text support is steadily increasing, further signifying the importance of this tool in vocabulary acquisition (Clay et al., 2009). Such technologies include visual-concept organization programs and word prediction software (Clay et al., 2009). One such specific example is a Visual Thesaurus, an interactive computer program that allows for vocabulary manipulation and study. This tool goes beyond offering just a definition through pronunciation and saving the word along with its accompanying synonyms, while linking to an imaging website to incorporate visual representations (Clay et al., 2009).

### **Word Manipulation**

Another common method of effective vocabulary instruction that produced superior student performance was that of allowing students to manipulate, rearrange, and organize words to determine relationships and associations. Brabham and Villaume (2001) present that working with vocabulary within categories asks one to critically think through context examination. This deeper thinking inevitably leads to a deeper understanding (Harmon et al., 2009). Rule, Barrera, and Stewart (2004) proved students who organize information acquire the information as readily as someone studying with the attempt to memorize.

The use of a “Predict-O-Gram,” for example, requires students to predict which words fit within various categories prior to reading the information (Baumann, Ware, & Edwards, 2007). A more common form of word manipulation, however, is a Word Sort, an interactive strategy that requires critical thinking and word discussion (Nixon & Fishback, 2009). Words are usually written on strips to be separated into various categories (Nixon & Fishback, 2009). This tool

utilizes higher level thinking skills to draw upon word relationships, connections, and similarities (Nixon & Fishback, 2009). This technique also provides reteaching and repetition of information due to the requirement that students relocate and reread the selection of words (Nixon & Fishback, 2009).

Various researchers have implemented this strategy within their action research and discovered positive results in achievement. Rose (2004) utilized Thematic Word Charts in which words were organized into patterns related to topics and themes such as definitions, details, and examples. In a science study of third graders, children who matched adjective cards to their objects learned almost twice the vocabulary of students who did not (Rule, Barrera, & Stewart, 2004). Students who participated in the action research of the interactive Word Wall also demonstrated higher scores after word manipulation and association of particular colors and symbols among words and categories (Harmon, Wood, Hedrick, Vintinner & Willeford, 2009).

Similar to the Word Sort and Word Wall, utilizing graphic organizers, concept mapping, and mnemonic systems also allow for the study and association of information (Clay et al., 2009; Rose, 2004). Due to the various modes at which the information can be arranged using these strategies, McCormick and Pressley (1997) discovered these tools assist students with Learning Disabilities in developing connections between words. Research proves mnemonic systems are particularly useful in the retention and understanding of content specific vocabulary words of less familiarity (Rule et al., 2006). In devising a quick reference word or strategy to associate word meaning or conceptual understanding, retrieval of information becomes easier (Rule et al., 2006).

What makes word manipulation in part so effective and successful in vocabulary acquisition is its hands-on nature that is accommodating for many students, particularly, kinesthetic learners

(Rule et al., 2006). In a study where students created representations of vocabulary words, the act of physical manipulation was found to increase focus to the degree that this instruction method is now highly regarded for science and social studies instruction (Rule et al., 2006). Tactile experiences are often a preference for students with disabilities who enjoy the opportunity to physically touch, create, and arrange through body motion and involvement (Rule et al., 2006). Students often find such activities to be “fun,” increasing motivation, interest, and therefore, ability to complete the task successfully (Upadhyay & DeFranco, 2008). Through hands on experiences, abstract information comes to life, becomes experiential, and is eventually added to background knowledge (Ruppley & Slough, 2010).

### **Contextual Analysis**

The impact and effectiveness of contextual reading to support word understanding and comprehension has been a topic of debate. Baumann, Kame’enui, & Ash (2003) describe context learning, or “contextual analysis,” as the examination of surrounding words to discover unknown word meaning. This strategy is taught to students to utilize when approaching a new, unfamiliar word (Baumann et al., 2007). Adult monitoring and guidance is necessary to first execute this strategy, however; the teacher identifies surrounding contextual features and allows students to verbalize and share thinking to process and draw conclusions from the information (Goerss et al., 1999).

To determine this strategy’s effectiveness, in a previous study students who learned words within context were compared against students reading words in isolation (Martin-Chang, Levy, O’Neil, 2007). Martin-Chang & Levy (2005) discovered that while students participating in context reading read faster and more accurately, students in isolation training learned and remembered words more efficiently. A following study of these groups, however, refuted these

claims, ultimately determining word retention was not affected by context learning or isolation (Martin-Chang et al., 2007). In this later study both students who were taught words in isolation and within context demonstrated similar retention (Martin-Chang et al., 2007). Studying words within the context of situational context has more commonly been discovered to promote vocabulary acquisition and application more readily than learning words in isolation for both strong and struggling readers (Martin-Chang et al., 2007). Previous studies facilitated by Dahl (1979), and Archer and Bryant (2001) observed context learning increased accuracy, speed, and comprehension.

Current evidence even suggests that students with below average decoding skills can independently and successfully utilize contextual evidence to support reading comprehension, as words critically examined within context will eventually be committed to memory (Martin-Chang et al., 2007). This strategy thus promotes individual practice when reading (Baumann et al., 2007). Data therefore proves that contextual reading is a “shortcut,” not a support tool, which results in faster word identification and is a method that can be self taught (Martin-Chang et al., 2007, 39).

In a study involving the effectiveness of Word Walls, Harmon et al., 2009 discovered students possessed negative reactions towards these tools at first because isolated words were presented without clues to meaning. It was imperative that students could make meaning of the provided words within multiple contexts, thus, the researcher asked students to think critically and create their own definitions and illustrations of the vocabulary within context (Harmon et al., 2009). This ultimately increased their vocabulary comprehension and acquisition and ability to develop higher level understanding (Harmon et al., 2009).

When incorporating context within vocabulary instruction, it is also important for students to have frequent interactions with words among various contexts, for example, throughout various content area subjects (Lesaux, et al., 2010). The more encounters a student has practicing and applying a word, the more conceptual and comprehensive the understanding. This frequent exposure and utilization further enforces the value of the information and its retention and application in effective communication.

### **Authentic Connections**

Given the implications of strong background knowledge on vocabulary acquisition, students must be given opportunities during instruction to connect with their existing prior knowledge (Rule et al., 2006). In doing so, the information will be well learned, and the student's ability to recall and apply information will occur more readily (Rule et al., 2006). When new concepts unite with memory, all previous information becomes connected as well (Upadhyay & DeFranco, 2008). This strategy not only builds a stronger foundation of which to acquire new knowledge, but students will find the information valued and relevant to their lives, and more intriguing. Upadhyay and DeFranco (2008) argue the effectiveness of this instructional strategy lies in student results; concepts that can be related to prior knowledge are acquired faster and more comprehensibly than concepts outside of context.

In an action research project testing various strategies for instructing landform vocabulary, Rule et al., (2006) found the creation of "object boxes" to be most effective in vocabulary acquisition, while the technique was also highly regarded in the opinions of students. These "object boxes" required students to compare landform representations to everyday objects of familiarity; this link to prior knowledge is what researchers attest to the success of the strategy (Rule et al., 2006). Nixon and Fishback (2009) similarly tap into students' prior knowledge

through the successful Word Sort activity that requires individual and collaborative reflection of prior knowledge to comprehend word relationships within groups. In the interactive Word Wall study, students were asked to create a visual representation that illustrated a situation pertaining to their word (Harmon et al., 2009). Students delved into their background knowledge to create such illustrations that would later trigger their understanding of the word within memory (Harmon et al., 2009).

### **Self-Selection**

Educators have universally experienced vocabulary instruction where students were uninterested or unmotivated in acquiring the provided new language (Ruddell & Shearer, 2002). In turn, the educator must repeatedly explain word meanings, only to find students are struggling to retain (Ruddell & Shearer, 2002). The impact of student choice in learning is prompting researchers and educators to allow students the privilege of choosing their own vocabulary words to study (Harmon et al., 2005). Supporting the Social Constructivists Theory that children should be engaged in the learning process, Cordova, Lepper (1996) and Turner (1995) state students who are involved in their own learning process possess control and are much more intrinsically motivated to perform, thus engagement and ability to complete a task increases. Dewey (1963) believes this involvement and participation in learning helps to offer student control and confidence.

Ruddell and Shearer (2006) define the Vocabulary Self-selection Strategy as one that requires students to search for a word within multiple sources they find imperative to class comprehension. Within the younger grade levels, this technique is referred to as the “Word Wizard” (Baumann et al., 2007). It is a valuable skill for students to be able to identify relevant versus irrelevant information within context (Harmon et al., 2005). Increasing student

independence, children must explain and then defend their choice, identifying where it was discovered, its conceptual meaning, and why the class should acquire it; after all presentations, students then rate and determine as a class which words are essential to know (Harmon et al., 2005). Results of Ruddell and Shearer (2002) implementing this theory demonstrated students were sophisticated enough to choose difficult, challenging words worth examining. This strategy was also used in the interactive Word Wall study, and was found to increase student motivation and interest in their investigations and presentations of new words (Harmon et al., 2005).

The process of self-selection also provides significant implications regarding students decision-making and reading abilities (Harmon et al., 2005). In a study by Fisher, Blachowicz, and Smith (1991), it was discovered that not knowing a word, or unfamiliarity, is the predominate reason students disregarded words. Further investigation of a student who continually self-selects based on this reason could indicate the child still understands the passage as a whole, or is in fact completely misinterpreting the chosen text (Harmon et al., 2005).

In holistically reviewing and analyzing the various researchers and their discoveries of effective vocabulary instruction methods, the contributions of social interaction, visuals, and word manipulation are more thoroughly researched, supported, and positively reflected within and among the various studies. The implications of contextual analysis, authentic connections, and the self-selection strategy, however, have been less critically studied across and among these provided contexts, and will thus become the focal points of critical examination within the research question of focus.

## **Methods**

### **Context**

The action research performed to examine conceptual understanding and retention of vocabulary was completed as part of a program through St. John Fisher College. This study was conducted in western New York in a suburb of Rochester. Located outside the city of Rochester, the families that compose its population consist of varying ethnicities and socio economic status. This study was specifically performed in a middle school within a classroom referred to as “Homebase,” created for preteaching, reteaching, and organizational needs. Each student has been given a pseudonym to ensure confidentiality.

### **Participants**

The three participants of this study attend the middle school and are currently in the 6<sup>th</sup> grade. Each student participates in the Inclusion program and receives Special Education services through the support of an Individualized Education Plan and Consultant Teacher.

Monae is an 11-year-old African American female who was classified with a Learning Disability in the summer of 2009. Monae is an extremely sweet, friendly, and compliant young lady who demonstrates a strong work ethic and level of motivation within the classroom setting. Academically, she struggles with vocabulary and a limited background knowledge, and exhibits difficulties with verbal and written expressive language. Monae displays auditory comprehension deficits, and thus comprehension of directions, tasks, and new language is a challenge. Her reading and writing abilities have improved since given the support of a Consultant Teacher, and she is currently reading at a strong 4<sup>th</sup> grade level.

Jumba is an 11-year-old Hispanic male classified with a Learning Disability. Jumba is adored by both adults and peers alike due to his respectful and responsible classroom behaviors and

interactions. Jumba presents with significant language deficits and also struggles with auditory language processing and interpretation. Recent testing reflected an instructional 5<sup>th</sup> grade reading level primarily due to difficulties with comprehension. Multiple exposures, reinforcement, and reteaching with the support of visuals and manipulatives is necessary for him to retain and understand new vocabulary and concepts in all content areas due to these deficits. Jumba also experiences anxious feelings that impede his ability to initiate social interactions and friendships with peers.

Alice is a 12-year-old Caucasian female classified with an Other Health Impairment due to significant Attention Deficit behaviors. Alice consistently displays a positive attitude and wants to please, however, difficulties attending to instruction impede her ability to perform at grade level. Although she is currently taking medication to aid in maintaining focus and attention, her behaviors continue to be inconsistent. She requires significant wait time to process and respond to verbal and auditory directions and instructions and generally works at a pace much slower than her peers. Encouragement and guidance are required for her to perform daily student responsibilities in a timely fashion such as following the school schedule. Her vocabulary development is far below grade level, interfering with her ability to acquire new language and concepts. Alice is reading at a strong 4<sup>th</sup> grade level due to both weak decoding and comprehension skills.

### **Researcher Stance**

I obtained my undergraduate degree in English with Inclusive Education at Nazareth College in 2007 and am certified to teach grade levels first through ninth, both regular and Special Education. I am now a graduate student attending St. John Fisher College to obtain my Master's Degree in Literacy Education.

This is currently my third year as a middle school 6<sup>th</sup> grade Special Education Consultant Teacher. Monae, Jumba, and Alice are three of the eleven students on my caseload for the 2009-2010 school year. I push into their content area classes of math, ELA, science, and social studies and co-plan and co-teach with the content area providers daily. I also independently teach the students on my caseload each day in the “Homebase” class which provides a smaller group setting for reinforcement of content area material and organization skills.

### **Method**

To execute the action research, I decided to meet with the participants in a series of four, small group sessions of approximately 20 minutes each. Session one introduced the action research strategy and procedure, sessions two and three allowed the students to utilize the provided strategy, and session four provided a reflection and post assessment opportunities to determine the conceptual understanding and retention of the instructed vocabulary (Appendices B-F). At the end of sessions one through three, brief review of the day’s learned vocabulary words was performed through simple observational flashcard review to quickly assess the level of comprehension per each session.

To critically examine the methods of vocabulary instruction, I created a strategy that incorporated the various methods researchers believe to contribute to understanding: social interaction, visuals, word manipulation, contextual analysis, authentic connections, and self-selection. I have referred to this all-encompassing tool as “The Circular Vocabulary Strategy,” named after its unique design. The initiative behind this tool is to start small with a singular piece of language, add in various comprehension aids and supports to build conceptual understanding, and then deconstruct the support system back to a singular piece of language to promote independent application. The circle begins with the vocabulary word in isolation and then

progresses to the word along with the definition, which students must independently discover in their text book and record. This then progresses to the word, definition, and illustration, which requires students to rewrite the first two pieces and create an accompanying illustration. The tool then deconstructs, asking students to rewrite just the word and definition before finally recording and ending with the word. A sentence containing the word within context is also incorporated for students to reference when inquiring the definition and attempting to decipher its meaning.

The composition of the strategy clearly allows for the observation of social interaction, given interactions between peers and adults will inevitably occur. The observation of visuals and word manipulation as methods are easily apparent as well, given the strategy is a graphic organizer that requires students to maneuver the term as they build and deconstruct conceptual understanding while progressing through the strategy. The methods and effects of self-selection, authentic connections, and contextual analysis, however, are less obvious in the presentation of the strategy, lending themselves to a deeper examination and analysis for the purposes of this study.

Immediately implementing the method of self-selection, students were allowed to choose between two different visual organizer formats for “The Circular Vocabulary Strategy.” Format 1 consisted of a worksheet with a labeled circular graphic organizer connected with arrows, while Format 2 was a flashcard flipbook containing the appropriately labeled headings on each card. Further applying the method of self-selection, students were allowed to choose which words they would utilize within the strategy. Four different lists consisting of five social studies vocabulary words were offered to the participants (Appendix A); Lists 1 and 2 consisted of familiar words that were difficult for the students to define, such as social class and technology,

List 3 was composed of crucial people in history, and List 4 contained a mixture of words from various chapters within the grade level text book.

To promote authentic connections, students were specifically instructed to create illustrations to accompany the definitions that connected to their prior knowledge of the vocabulary term. Participants were not to create illustrations that would assist them in remembering or reading the actual word; pictures reflected their comprehension of the term's implications.

Students were given an example of their vocabulary terms within context to address the method of contextual analysis. Students were specifically instructed to read this sentence before searching for the word's definition and utilize it as an aid in determining meaning. Students were also prompted to read the sentence to themselves after recording the definition to ensure their definition made sense within the provided context.

### **Quality and Credibility of Research**

To propose quality research, data collection, and analysis, it is imperative the study address the criteria of credibility, transferability, dependability, and confirmability to ensure the study is reliable and valid. Mills (2007) defines the criteria of credibility as, "the researcher's ability to take into account the complexities that present themselves in the study and to deal with the patterns that are not easily explained" (85). To assist in the credibility of my research, I chose to engage in peer debriefing with a co-worker (Mills, 2007). This colleague and I discussed my proposed question of research as well as the participating students to create a vocabulary instruction strategy that would both address the instruction methods identified in research and meet the vocabulary development needs of the participants. I used this person's feedback to determine the strategy's effectiveness and implications of the collected data through the action research as well.

I also performed what Mills (2007) refers to as “triangulation,” when I compared various sources and methods with one another to draw holistic conclusions and implications through observing student behaviors, interviewing the participants, and providing various post assessments.

To address the criteria of transferability, or the belief the study remain “context bound,” as opposed to “generalized,” I collected and recorded very thorough and descriptive data (Mills, 2007, 86). I provided detailed information about the participants of the study, where exactly the study was executed, what the vocabulary strategy entailed, and how it was specifically implemented (Mills, 2007). In doing so, comparisons can be made between different contexts and a general truth statement cannot be offered (Mills, 2007).

Mills (2007) refers to the crucial theory of dependability as, “the stability of the data” (86). One such way to offer dependability of data collection is to “overlap” research methods and techniques to compensate for discrepancies and weaknesses among data (86). For example, I chose to administer the student interviews in an effort to collect information that would either support or refute my observations and implications of student behaviors (Appendix F). Asking the students to verbalize their knowledge and opinions of the experiences provided further insight into what I had observed and also solidified the information recorded in my field notes.

I also developed various post assessments for each student to determine whether the participants developed conceptual understanding or rote memorization of the vocabulary (Appendices B-E). The assessment in which students were asked to record definitions solely from memory offered the degree of accuracy to which the definitions had been memorized. The second assessment of matching demonstrated whether the students could identify definitions without the interference of memory challenges. The third assessment that offered contextual

example sentences to be matched with the vocabulary identified whether participants were able to show a higher level understanding, as rewriting or searching for the definitions was not required to display word comprehension.

The final characteristic of confirmability addresses the “neutrality” and “objectivity” of data collection (Mills, 2007, 86). Through practicing triangulation, I was able to compare and contrast the data I had collected from varying techniques so as not to rely too heavily on the data from one particular source (Mills, 2007).

To perform reflexivity, or to reveal any subconsciously developed biases, I wrote reflections after each session to ensure I was not altering the research due to my familiarity with the participant’s levels and abilities (Mills, 2007). These reflections not only offered another form of data analysis, but also allowed me to reflect on my progress toward answering my research question. Through writing and reviewing these reflections, I was able to determine how best to manage the upcoming sessions to produce maximum data collection and opportunities for analysis.

### **Informed Consent and Protecting the Right of the Participants**

It was essential that I immediately obtained consent before performing the examination and observations. Given that this is a qualitative study that required me to work in a small group with participants in middle school, permission slips were granted to both the children and their guardians. These permission slips explained the purpose and explanation of the research topic as well as the details of where and when the sessions would be occurring. Guardians were informed that the participant’s names would be replaced with pseudonyms and confidentiality would be guaranteed.

**Data Collection**

Throughout this study, multiple forms of data collection were used to obtain accurate and thorough information of the vocabulary instruction strategy. Active observation was utilized in each small group session with the participants, along with the use of field notes to record observations of student verbalizations, behaviors, and interactions. At the end of each session, I recorded a quick reflection and any implications noted regarding any of the various methods of examination. The strategy was collected and reviewed for further analysis of student output. During session four, various assessments that required students to record definitions, match words and their meanings, and identify the vocabulary word to the contextual example were collected and recorded (Appendices B-E). Each student was also interviewed at the end of our sessions to determine his or her opinion of the effectiveness of the methods provided within the strategy (Appendix F).

**Data Analysis**

My goal in analyzing the collected data was to determine whether or not the vocabulary instruction methods of social interaction, visuals, word manipulation, authentic connections, contextual analysis, and self-selection promoted conceptual understanding and retention of vocabulary. After obtaining all necessary information, I thus began my analysis by focusing on each of these methods independently. To draw holistic conclusions, I first reviewed and compared how each was implemented within the strategy each day along with any documented student behavioral and verbal responses towards each component. I then evaluated these conclusions along with the scored assessment results (Appendix E) to determine any implications. Finally, I reviewed and compared this analysis to the post interview reflections

(Appendix F) to decide the effectiveness of the strategy and methods of examination through authentic student responses and opinions.

In determining common themes and categories within data, I categorized the information according to the different instruction methods of examination, since each was uniquely incorporated and executed. The information collected from the word manipulation and visual methods have been combined into one section, as the word manipulation method was executed visually and impacted visual perception. The instruction methods are listed below under labeled categories that reference their impact and influence towards vocabulary development.

## **Findings and Discussions**

### **I. Motivation and Manageability**

#### **a. Self-Selection**

During the action research, it was quickly noted through observations and interactions that the self-selection strategy aided in conceptual understanding and retention of vocabulary through increasing student motivation to work and promoting task manageability. This study began with the implementation of the self-selection method when students were asked to choose their visual organization format of “The Circular Vocabulary Strategy;” participants were given the option of a worksheet and a flashcard flipbook. When displaying both strategy formats, the students were indifferent to the worksheet but immediately showed interest upon viewing the flipbook. All three students chose the flipbook technique without hesitation and with the explanation that it looked “more fun.” Throughout the sessions, the students continued to be active participators who were engaged in utilizing the strategy format. This same response would not have been offered if the students were made to continue with the worksheet that did not ignite their interest upon its introduction.

During a post interview reflection, students were asked their opinion of the flipbook format to assist in determining the motive behind the selection. Monae shared that the worksheet seemed confusing and referenced the flipbook as a “student thing” while the worksheet was more of a “teacher thing.” Jumba offered a similar response in stating that the flipbook comparatively looked “better,” with the paper seeming, “...overwhelming, harder, and like more work.” Alice justified her choice through explaining, “The boxes on the worksheet were boring.” She enjoyed having the room to work in the flipbook and found the card “titles,” which explained what contents were to be on each card, to be “helpful” because they were like “directions.”

This self-selection continued when the students were asked to choose one of four social studies vocabulary lists to use in the assigned strategy (Appendix A). When presented with their options, the students unwaveringly chose their lists according to familiarity and perceived level of difficulty. Monae and Alice each selected List 1 because it offered the word, “technology,” a topic they both enjoy. They shared during the self-selection process they could “relate” to this list and thus would “understand it better.” Jumba chose List 4, similarly explaining that his prior knowledge of the word “Renaissance” prompted him to choose this list in comparison to others. Jumba thought he already “knew that word” and would “do good with it.” Throughout work sessions, the students appeared eager to discover and record definitions, as they already had an interest in the words and thought they possessed some level of expertise in their list. When approaching an upcoming word, the students often exclaimed, “I think I have heard of this one,” or, “This one will be easy.” It is possible that this prevalent confidence in their success and abilities would not have been present had the lists been arbitrarily assigned.

During the post interview reflection (Appendix F), the students responded positively to the self-selection strategy and its impact on their success with vocabulary understanding. When

asked their opinion of whether they liked or disliked having the opportunity to choose their strategy format and vocabulary words, each of the students offered a positive and unexpectedly insightful response that demonstrated an awareness of their own needs and learning styles.

Monae said the self-selection method, “Allows you to pick what helps you do the best and what you know best.” Jumba shared that when you have the choice, “The teacher can’t pick things you can’t do. You pick what you know you can do.” Alice similarly explained that this method, “Let’s you choose what you need and what is easy.” The self-selection method allowed these students to reflect on their strengths and weakness to independently apply strategies that cater to their needs and will allow them to flourish.

#### **b. Word Manipulation and Visuals**

The student’s selection and justification in choosing the flipbook format also implies the significant appeal the method of word manipulation had to the participants. This method was particularly implemented within the proposed strategy in a hands-on, tactile fashion that made the task manageable and interesting, increasing student motivation and thus success in vocabulary understanding and retention. The participants indicated their reasoning for choosing the flipbook to be that physically engaging with the strategy through flipping the pages appeared “more fun.” All of the students continued to share their enjoyment of this task during interactions and post interview reflections. Through allowing the students to turn the pages and work at their own pace, the students possessed control and ownership of their strategy, further allowing for student manageability.

In performing this perceived “fun” task, however, the students also manipulated and simplified the data, spreading the concept and information into various segments within each card. In continually and physically flipping the cards, information is naturally and inadvertently

chunked and simplified for the students into manageable pieces, as the word's holistic concept is never viewed all at once when completing the strategy. In a sense, the participants connected puzzle pieces of information to construct a conceptual understanding that could later be deconstructed to build independence.

While the students may not have been aware of the word manipulation they were indeed performing, they were cognizant of the visual simplicity the method offered. Students indicated in post interview reflections (Appendix F) that the simplistic format of the flipbook constituted easier and less work. The participants continued to express this opinion even after reminders that both visual organization formats were identical in their task completion.

## **II. Guide to Understanding**

### **a. Contextual Analysis**

The method of contextual analysis was designed within "The Circular Vocabulary Strategy" as an aid in determining and verifying word meaning through displaying the word within context for reference. After collecting and analyzing field notes and post interview reflections, this method uniquely reported inconsistent results among the participants, indicating its ability to independently only act as a guide for students towards an eventual conceptual understanding and retention of vocabulary.

Immediately after viewing a new word, students were instructed to read the contextual sentence and begin making inferences as to the word's implications. Monae and Alice readily performed this task through reading the sentence, pausing, and verbalizing their thoughts aloud. After reading the sentence, "In our government, a democracy, citizens are allowed to vote," Monae offered that, "Government is about laws." In response to this same sentence, Alice shared, "Government has to do with rules and when you help make rules." In completing this

same task, however, Jumba rushed through the process by quickly reading the sentence and flipping the page without pausing to make a prediction or inference. When prompted to reread the sentence to attempt to decipher the word's meaning, his completion of the task became forced. After quickly rereading the sentence, "The lord granted his noble a piece of land," Jumba replied, "I don't know. Like a king or something," and proceeded to move on.

In post interview reflections (Appendix F), students were asked whether they believed reading the word within a sentence was helpful. Monae responded positively through saying, "Yes, it teaches you something if you don't know what the word is," and Alice similarly responded, "Yes, you understand what it means better." When Jumba was asked this question, his facial expression turned serious while he simply responded, "No not really."

Despite these varied responses, each student demonstrated mastery of this method when asked to create their own contextual sentence for their final vocabulary word after recording the definition. For the word "religion," Monae wrote, "I have a religion that God is our person we worship," while Alice wrote, "People express their beliefs about the world through religion." For the word, "Renaissance," Jumba wrote, "Leonardo DaVinci was a Renaissance man and well rounded."

The differences in student responses and performance not present within the independent application possibly indicate gender to be an influence on task completion. While the female students, Monae and Alice, appeared to enjoy slowing down and completing a thought provoking task, the male student, Jumba, appeared to want to finish the work without taking the time for deeper thought and reflection. Holistically, however, it can be concluded that the method of contextual analysis in general did not appear to significantly help nor harm the process of vocabulary development. While the method was indeed thought provoking to the girls and

guided each of the students in the right direction toward understanding, the way in which the method was executed for the purposes of this strategy proved to be only moderately effective in conceptual understanding and retention of vocabulary.

### **III. Retelling**

#### **a. Repetition**

The format of “The Circular Vocabulary Strategy” strategically required students to engage in the process of repetition. While repetition was not intended to become a specific method of examination, this technique informed the research through proving to contribute to a basic retelling and retention of vocabulary as opposed to a conceptual understanding.

Due to the construction and eventual deconstruction of vocabulary concepts throughout the strategy, students were asked to write the particular vocabulary word five times and the definition three times. During two of the sessions, Jumba expressed an aversion to rewriting the same information, stating, “We have to write it again? Come on! When does this end?” While his tone contained a hint of sarcasm, he appeared in his verbal response to be stating a true opinion of the task. Monae and Alice made no comments about this repetitive technique during this time at all. While Jumba’s opinion may indeed be a personal preference, it may also suggest gender to be a factor in writing motivation, as the male student found the task of writing and rewriting to be tedious.

While Alice never expressed feelings of frustration, her difficulties maintaining focus coupled with a slow work pace immediately caused her to fall behind her peers due to the written repetition. Alice was able to develop a compensatory strategy, however, that aided her in fulfilling this task within the allotted time. After finding the definition, Alice began developing a concise meaning in her own words that was more manageable for her to record multiple times. It

was noted in later work sessions and assessments that this technique did not inhibit her ability to verbalize nor understand the new vocabulary.

Given that its implementation began to influence student responses and work productions during our sessions, students were asked during post interview reflections (Appendix F) whether or not they found the repetition of the strategy to be helpful. Monae excitedly exclaimed, “Yes! I remembered more when I had to do it over and over.” Alice similarly reported, “It helped me to remember better,” and, “While it seemed long at the time, shortening the definitions into my own words helped.” Consistent to his verbalizations and behaviors during session times, Jumba stated that he does not like the rewriting. He continued by explaining, “Two times is ok, but three times, no,” again indicating a possible link between gender and writing motivation.

At the end of each work session, the day’s vocabulary words were briefly reviewed and practiced with each student through a basic flashcard review. It was noted within these times that the students often directly regurgitated the definitions in the exact order and with the exact word choice as was recorded in their flipbooks. While this behavior demonstrated a basic recall of the word’s definition, it did not display whether the students had developed a strong retention or conceptual understanding of the word. Despite Alice and Monae’s opinions of the repetition, at this point of the action research, it could only be concluded that repetition aided in memory recall and simple regurgitation of language.

#### **IV. Conceptual Understanding**

##### **a. Authentic Connections**

After discovering definitions, participants connected to their prior knowledge through creating accompanying illustrations to accommodate the term’s meaning. While it was initially perceived the students might have difficulty with this task, creating these illustrations turned out

to be a natural process for the participants. It was noted during the action research how authentic to meaning the student illustrations really were. When questioned about their pictures, each of the students was able to explain his or her visual and how it connected to a previously learned concept without prompting. Monae, for example, decided to draw a picture of a judge mallet when deciphering “government,” after connecting the court system to the word’s implications of law and order. Jumba drew a picture of medieval hats for the term “middle ages” after connecting the term to something he had viewed on TV. Alice decided to draw a tree for “government” after remembering that in fifth grade she learned there were different branches of government.

While the illustrations were incorporated within the strategy to assist the students in connecting a new vocabulary term to prior knowledge, it was also intended to be a visual cue for memory recall and conceptual understanding. During brief vocabulary review at the end of a session, Alice was having difficulty remembering the exact definition for “government.” When prompted to think of the illustration she had drawn, she recalled the branches she drew and explained in her own words that government enforces rules in a society. Similarly, while Monae could not recall the definition for “primary source” when showed her illustration of an old paper artifact, she was able to describe the definition correctly herself, suggesting a deeper understanding of the term as opposed to a basic recall of information and regurgitation.

Students were asked on the post interview reflection (Appendix F) whether they enjoyed creating the illustrations and whether this task assisted them in understanding and or remembering the new vocabulary word. All three students overwhelmingly responded positively to this question. Monae shared, “The pictures helped a lot. It was easier to remember the definitions with them.” Jumba thought, “The illustrations were good because they gave you hints

when you looked at them again.” Alice explained, “The illustrations helped me to remember and understand the words in my own way.”

### **b. Social Interaction**

Since previous research overwhelmingly states the significance and effectiveness of social interaction on acquiring literacy, it was perceived the impact of this method on vocabulary development would indeed be momentous. After analyzing thorough observations and field notes, however, the extent to which this method created a conceptual understanding and retention of vocabulary terms above others was far greater than initially assumed. To create conceptual understanding and retention, social interaction created a comfortable environment, clarified and validated ideas, and provided a foundation that linked the other methods of contextual analysis and authentic connections.

Throughout the various work sessions, students were neither prompted nor discouraged from socially interacting with either students or researcher. Given the students’ interest and eagerness in participating in this study and previous familiarity with one other, the children began verbalizing their thoughts and opinions immediately after listening to the directions and their role in the action research. Simple exchanges such as, “This is going to be so fun,” and, “This is so cool that we’re the only ones doing this,” consisted of some of the initial interactions among the group. This basic level of conversation and interaction created a relaxed yet comfortable working atmosphere that continued throughout the action research and made future interactions possible.

As the sessions progressed, the participants began relying on each other to seek clarification and verification of understanding and meaning. In just one particular instance, after recording the definition of “secondary source” as “Work produced about a historical event by someone who was not really there,” Alice sought clarification through asking Monae if this term meant,

“...when you have someone else make something for you.” Monae then responded, “No, it’s like when you make something now that’s about something that happened a long time ago.”

Referring to her contextual sentence, Alice then replied, “Oh, that’s why this sentence says your social studies textbook!” After developing meaning through this conversation, Alice then used this method along with contextual analysis to create her own definition as, “Something someone made about history today;” she would not have been able to create this definition without the provided assistance from Monae. Alice was then able to create an illustration for this word that appropriately connected to her prior knowledge and aided her in understanding.

Similarly, during a particular brief daily review, Monae was having a hard time explaining the meaning of the word “technology” as she kept associating the word only with the development of fire and early people. Hearing our review session, Jumba chimed in with the explanation that “Technology is just something that helps and makes life easier. It’s not just fire.” When Monae was asked this word again, Jumba whispered, “Not just fire,” and Monae was able to readily provide a definition and explanation with no further prompting.

While the participants were not asked their opinions of this method on the post interview reflection due to its perceived effectiveness, the significance of this method is apparent. Social interaction appeared natural for the participants, as they verbally shared and offered assistance to each other without prompting. It was through this comfortable conversation that the students were able to correctly utilize one another along with the other instruction methods for clarification. This connected prior segments of partial knowledge to create a conceptual understanding that was retained through future sessions and assessments.

## V. Assessment Results

Assessment one (Appendices B and E), which required students to record full definitions from memory was administered to determine how accurately the participants could recall the formal definitions. In scoring this assessment, it was found that each participant was able to correctly write the definitions for four out of the five words. In all three instances, the incorrect response contained some key words present in the original definition, indicating some recall and understanding was present, yet, the students struggled to independently express this meaning through correct word choice or detail, impacting their ability to receive full credit. Monae described “secondary source” as “Thing people made a long time ago and made today.” Alice simplistically described “government” as “People that make the rules,” while Jumba defined “Renaissance” as “Learning about art and literature.”

While the students exhibited some difficulty, it could be determined from prior interactions and later assessments that the students did possess a more conceptual understanding of the missed word than indicated by this assessment. This implies that whether or not the students can recall the definition word for word is not an accurate indication of a deep conceptual understanding or retention; simply repeating a definition does not require or demonstrate an actual understanding of what the word means or how it is utilized. Although the students were able to recite the definitions word for word in earlier review sessions, this assessment proves the repetition method which enabled them to do so did not contribute to long term retention.

Assessment two (Appendices C & E) consisted of matching vocabulary words to provided definitions. In this assessment, definitions were given so that students would not have to recall the definitions solely from memory. All three participants received the full points allotted on this

assessment, indicating a general level of knowledge of each word through their ability to recall and match word meanings.

In assessment three (Appendices D & E), students were asked to match a contextual example sentence to the vocabulary word to demonstrate an understanding of the words conceptually within context. Monae, for example, identified “primary source” as a match for, “The archeologist discovered a spear while digging.” As was seen in assessment two, all three students correctly identified all sentences, even for the word which caused them to lose points on a previous assessment. This assessment demonstrates a conceptual understanding and retention of the vocabulary primarily due to the success of the social interaction method.

### **Implications**

#### **I. Self-selection, Word Manipulation, & Visuals**

For students to be successful, they must first think that they can be successful. In thinking specifically of visual learners, their ability to comprehend auditory information and dictations is a relative weakness to their ability to comprehend graphic representations. Therefore, to create this self-confidence in visual learners for varying vocabulary tasks, students must be motivated to work and possess some level of control, ownership, and manageability through the methods of self-selection, word manipulation, and visuals to become self-reflective, independent learners.

While it may not always be possible for students to choose their own vocabulary words as in the action research, students should be given the opportunity to make choices in regards to their own learning whenever possible; this could include choosing their method of note taking, which book they will read, or the method through which they will present a project. Visual representations such as graphic organizers and picture cues should always be offered alongside written composition and information so that students can reference the modality that bests

accommodates their learning needs and aids in comprehension. Hands on, word manipulation activities can be implemented to segment and chunk information to simplify work that may appear too visually overwhelming. As was seen in, “The Circular Vocabulary Strategy,” once students become motivated to work and perceive the task to be manageable after given these methods, their feelings of confidence will allow them to focus on comprehension and assist them in successfully accomplishing the task.

The methods of self-selection, word manipulation, and visuals should also be implemented in a partner or group dynamic that allows for social interaction and authentic connections to aid in conceptual vocabulary understanding and retention. For example, students could practice self-selection and decision-making within groups, draw and present various visual representations of terms that represent the group’s knowledge, or designate assigned roles to create interactive organizers that segment and discuss the language and meaning of new words.

## **II. Contextual Analysis**

Learning and viewing information within the realm of which it will be implemented and utilized generally makes the information practical and thus easier to comprehend. Teachers, for example, have often shared it was not until they were in the classroom that they were able to understand what it was truly like to teach. While the contextual analysis method represented within the project proved only to be a guide to understanding, the impact of utilizing the context for comprehension purposes should not be completely disregarded because of this.

While contextual analysis is indeed a valid instruction method, the way in which it was implemented within the strategy did not allow for its impact to be accurately displayed. Due to the strategy’s attempt to examine multiple instruction methods within a larger task, contextual analysis was viewed as more of a stepping-stone to completing the graphic organizer. To view

the true significance of contextual analysis on vocabulary development, it should be executed in a more hands on, interactive way that allows students to focus on the context for a lengthier time; for example, students could search for context clues within groups using colored flags, rather than simply viewing and discussing a sentence in isolation from the text it was derived. If this method is executed more independently of other instruction methods and more time for examination of the holistic context is provided, the transferability of contextual analysis will become apparent in conceptual vocabulary understanding and retention.

### **III. Repetition**

While the method of repetition was not intended to become a component of examination, the data collected and the analyzed findings led to various implications within the classroom setting. It was discovered that continually repeating the definition throughout the proposed strategy only assisted in the student's attempt to restate exact language, which did not transfer to long-term memory nor aid in or display any conceptual understanding. The key in effective repetition is therefore ensuring the appropriate materials or information are being repeated.

While it may not be beneficial to recite book definitions, it would be more valuable to repeat definitions that are student created. For example, through Alice's compensatory strategy of explaining the definition in her own words after deciphering meaning through social interaction, each review time allowed for a repetition of her own language and understanding as opposed to a book generated explanation of which she was not part of. As seen through the manageability and motivational components presented through the methods of self-selection, visuals, and word manipulation, the students must possess ownership and input of the information to assist in long-term conceptual understanding.

Often for visual learners, it is helpful to create some sort of mnemonic device or visual representation to identify a definition or conceptual meaning. It would be helpful for students to create a memory strategy that reflects and triggers a deeper, student-contrived understanding developed through social interaction, and then repeat this strategy to assist in long-term retention and conceptual understanding.

#### **IV. Authentic Connections**

The method of authentic connections was found successful in the action research mostly due to its ability to require students to link new information to their prior knowledge. This method therefore implies that it is imperative to allow students to engage in pre-teaching and pre-reading activities to activate background knowledge. An “Anticipation guide” for example, which asks students to critically examine and inquire about upcoming concepts and vocabulary is just one example of a successful strategy that creates connections among knowledge and builds a foundation for future understanding.

The implementation of authentic connections through creating an illustration also attests for this method’s particular success in vocabulary development for visual learners. The illustrations not only transferred written information into graphics, but intentionally acted as visual cues, which were found to be helpful in memory recall for these specific learners. This method once again signifies how imperative graphic representations are for students who struggle with auditory comprehension.

#### **V. Social Interaction**

The method of social interaction was found to be imperative and essential in conceptual vocabulary retention and understanding in part because it created a comfortable work environment in which the students felt supported. Through the conversation that began casually

and continued to ensue, the students received reassurance and encouragement that their thoughts were valid, promoting further interactions. Without an environment in which students feel confident and comfortable speaking, sharing, and helping one another, students will keep to themselves and work independently. Unless ideas are exchanged through social support to scaffold and build independence and create a foundation for knowledge, future vocabulary development will inevitably be inhibited.

Social interaction also allowed for clarification that linked other instruction methods and assisted students in conceptual understanding. Through verbalizing the thought process in the action research, the students shared confusions that could then be amended through reciprocal conversation and referencing other instruction methods less helpful and effective independently. Since children can often struggle with displaying their knowledge and understanding on more formal assessments, direct verbalizations reduce the amount of misconceptions made by educators.

Given the findings and analysis of this method, it is thus essential that classrooms be founded on social interaction so that students readily interact with both peers and teachers and do not work in isolation. Students should be allowed to engage with partners and within groups that are consistently modified and altered so that different learning styles are expressed, accommodated, and learned from. Opportunities to engage with the adults in the room through conferencing and small group assistance must also be provided to offer guidance that will lead to an eventual independent application.

## **VI. Gender Implications**

It became apparent in more than one instance during the action research that differences in gender could perhaps influence which instruction method is utilized for vocabulary development.

Jumba disliked the writing repetition and slower work pace required for the contextual analysis examination, which could imply that males have less of an affinity for writing and would rather finish the task as quickly as possible. This is not to say, however, that every male student would respond this way just because this research indicated so. What this data does imply, is how crucial it is to work closely with students to determine their likes and dislikes, what works well and what does not, so that appropriate modifications can be made to aid in their success.

### **Conclusion**

Vocabulary is an imperative communication tool and component of a successful individual who has acquired literacy (Rose, 2004). Vocabulary acquisition not only builds a strong foundation of knowledge to construct new and conceptual understandings (Marzano, 2004), but how one expresses this vocabulary affects outsiders as well as self-perceptions. (Goerss, Beck, & McEown, 1999). This research, coupled with my belief in the Sociocultural Theory that literacy is essentially a matter of social practices (Larson & Marsh, 2005) and our “control over a secondary discourse” (Gee, 2001, 529), the examination of vocabulary development was imperative to my profession as a special education teacher working with struggling learners. This inevitably led to the creation and examination of what classroom methods promote conceptual understanding and retention for visual learners.

The existing research provided various instruction methods based on social interaction, given the multi-faceted nature of vocabulary and the learners whom attempt to acquire it. The significant and positive effects of social interaction, visuals, word manipulation, contextual analysis, authentic connections, and self-selection were among the most commonly discovered and discussed for their positive impact. Each of these methods thus became a staple in “The Circular Vocabulary Strategy” executed with the three participants.

After performing the action research and collecting and analyzing data, I have a more thorough answer to my research question than anticipated. I have discovered the methods of authentic connections and social interaction have the most significant influence on conceptual understanding and retention, given their link to prior knowledge and other instruction methods, and their aid in creating a comfortable learning environment that allows for clarification. I also have concluded that the methods of self-selection, word manipulation, and visuals are motivating to students and create task manageability through ownership and simplifying information. While the way in which contextual analysis and repetition were implemented within my strategy offered contextual analysis to be a guide to understanding and repetition to result in basic recall, I was able to determine how to integrate these methods more effectively in future lessons and classroom tasks. Despite the various findings, the holistic implication is that a comfortable classroom environment that allows for social interaction, adult guidance, scaffolding, and instructional modifications, is essential to the conceptual understanding and retention of vocabulary so desired.

In retrospect, the action research would have been even more thorough and indicative had the time allotted to work with the participants been longer. If this action research were attempted again in the future, longer implementation and observation of the methods within different contexts should be performed to determine even more implications than discovered. Perhaps then suggestions for lesson plans and activities that better accommodate visual learners could be found and utilized within my own classroom in the future. For now, it is hoped readers will take these methods and their provided implications and apply them to their own classrooms, in their own unique ways, so students can experience the success achieved through conceptual understanding and retention of vocabulary.

**Appendix A**

**Vocabulary Lists**

List 1	Primary Source Secondary Source Technology Government Religion
List 2	Social Class Migration Agriculture Civilization Empire
List 3	Leonardo DaVinci Michelangelo Shakespeare Moses Hatshepsut
List 4	Humanism Middle Ages Lord Helicentric Theory Renaissance

**Appendix B**

**Vocabulary Quiz**

Define the following words:

Technology

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Primary Source

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Government

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Religion

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Secondary Source

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**Appendix C**

**Vocabulary Quiz**

- |                        |   |
|------------------------|---|
| _____ Primary Source   | a. Work produced about a historical event by someone who was not there. |
| _____ Technology       | b. Worship of God, Gods, or Spirits                                     |
| _____ Government       | c. Organization that makes and enforces rules in a society.             |
| _____ Secondary Source | d. Using knowledge, tools, and inventions to meet people's needs.       |
| _____ Religion         | e. Document or artifact created by someone during the time period.      |

**Appendix D**

**Match the word with the sentence!**

**Secondary Source**

**Primary Source**

**Religion**

**Technology**

**Government**

1. The archeologist discovered a spear while digging. \_\_\_\_\_
2. In Athens there was a democracy where citizens could vote. \_\_\_\_\_
3. In Ancient Egypt, the people were polytheistic and worshiped many Gods.  
\_\_\_\_\_
4. The creation of fire helped hunter-gatherers to cook their food and stay warm.  
\_\_\_\_\_
5. Mr. Turner instructed the students to read in their social studies textbook to learn about ancient Rome. \_\_\_\_\_

**Appendix E**

**Assessment Results**

<b>Assessment 1: Open definitions</b>	
Monae	4/5
Jumba	4/5
Alice	4/5
<b>Assessment 2: Matching</b>	
Monae	5/5
Jumba	5/5
Alice	5/5
<b>Assessment 3: Matching within context</b>	
Monae	5/5
Jumba	5/5
Alice	5/5

**Appendix F**

**Interview Reflection Results**

<b>1. What did you like about the Circular Vocabulary Strategy? What didn't you like about the strategy?</b>	
Monae	It was really fun and it helps you remember the words.
Jumba	I liked it a lot, it was fun.
Alice	I loved it! It was really fun to flip the cards.
<b>2. What is your opinion of the flipbook format?</b>	
Monae	I liked flipping the pages. This was more of a "student thing," the worksheet is a 'teacher thing.' The worksheet seemed confusing.
Jumba	I liked flipping the pages. The flipbook looks better than the worksheet because the paper looked overwhelming and hard. It looked like more work.
Alice	There was room to work which was good. The titles on the cards were like directions and that was helpful. The boxes on the worksheet looked boring.
<b>3. Did you like drawing the illustration? Do you think it helped you understand and/or remember the word or no?</b>	
Monae	The pictures helped a lot; it was easier to remember the definitions with them.
Jumba	The illustrations were good because they gave you hints when you looked at them again.
Alice	They really helped me to remember and understand the word.
<b>4. Did you find the repetition strategy helpful?</b>	
Monae	Yes! I remembered more when I had to do it over and over again.
Jumba	I don't like rewriting everything. Two times is ok, but three times, no.
Alice	Yes, I remembered better. It seemed long at the time, but shortening the definitions into my own words helped.
<b>5. Did you like or dislike having the opportunity to choose the vocabulary words and strategy format</b>	
Monae	Yes because you can pick what helps you do the best and what you know best.
Jumba	Yes because then the teacher can't pick things you can't do. You pick what you know you can do.
Alice	Yes because you choose what you need and what is easy for you.
<b>6. Do you think reading the word in a sentence was helpful?</b>	
Monae	Yes, it teaches you something if you don't know what the word is.
Jumba	No not really.
Alice	Yes because you understand what the word means better.

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