USING THE EXPANDED KEYWORD METHOD TO HELP K-12 STUDENTS
DEVELOP VOCABULARY KNOWLEDGE

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DEDICATION

This work is dedicated to all my family members: parents, my siblings who always cheered, supported, encouraged me. It is also dedicated to my wonderful kids, Yahya and Joanne. This work would not have been possible without their patience and understanding that mom will be done soon and have more time for them. It is dedicated to my supportive great husband, whose encouragement and persistence pushed me to start and finish my PhD, when I was not even planning to start.
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Abstract

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This exploratory case study aimed to examine students’ ability to implement the Expanded Keyword Method (EKWM) to help them learn vocabulary. EKWM works in two steps: (1) finding a rhyming word with the word to be learned; (2) connecting the rhyming word with the word to be learned through drawing a picture, writing a poem, singing a song, or acting out the meaning. This study also explored participants’ ways of generalizing the method into learning different content vocabulary. Two ninth grade classes were taught English vocabulary with the EKWM and then were asked to collaboratively create their own in class. After that, they were asked to apply the technique outside English class; then some interviews were conducted with some of the students to get more information about their experience with the technique. Results showed that participants had the ability to create their own EKWM, and they generalized the method into learning a variety of content vocabulary in Math, Food and Nutrition, and Chemistry as well as foreign language vocabulary in Spanish and French. Further, the method showed positive effects on students’ engagement and it promoted their creativity. Results from this exploratory study suggest that the EKWM should be used to help students develop their vocabulary knowledge in a way that suits their different intelligences and promotes engagement, critical thinking, and creativity.
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CHAPTER 1
INTRODUCTION

Imagery has proven to be effective in memorizing information and learning language (Paivio, 1986). Furthermore, an interactive mental image, which connects a pair of words, strongly increases recalling words (Paivio & Begg, 1981, p. 310). One teaching method for acquiring and retrieving vocabulary in a learner’s long-term memory is called the key-word method (KWM) (Raugh & Atkinson, 1975). The KWM is a mnemonic device used to aid in recollection of difficult vocabulary. This memory device involves two stages. First, the learner (or teacher) finds a keyword from the native language that has a similar sound to the new word. This is called the ‘acoustic link.’ During the second stage, the KWM requires learners to connect the keyword with the meaning of the new word through an interactive image, ‘imagery link’ (Rough & Atkinson, 1975; Pressley et al., 1981). This dissertation will explore students’ ways of implementing the expanded key-word method (EKWM). The word expanded refers to the incorporation of other intelligences in addition to the visual or spatial intelligence (the descriptive KWM) to learn vocabulary. It will also explore the possibility that students generalize the method to learn vocabulary on their own.

The EKWM can be defined as a mnemonic device that allows learners to incorporate their preferred learning styles in learning vocabulary, and it works just like the descriptive KWM in two steps. First, learners find the acoustical link. Second, learners connect the keyword (acoustical link) with the meaning of the new word through writing a story or singing, acting out the meaning of the new word, or drawing. The goal of the intervention is for students to better engage with the EKWM so that they can
generalize this method to other learning situations. Generalizing the method can be defined as students being able to create a keyword, using their strong intelligences, on their own whether inside or outside the English classroom. Children can learn new strategies through observing how it is implemented and through understanding the explanation of it. Then they will be able to implement the strategy (Crowley & Siegler, 1999).

Statement of the problem

The KWM is effective for learning and retrieving vocabulary. It has been found to improve vocabulary for learners of different ages, show greater improvement in comparison to other vocabulary learning strategies, and help learning different languages. Research has shown that KWM fosters creativity, improves motivation, and teaches a lot of vocabulary in a short period of time. This vocabulary is retained in the long-term memory. The method not only engages students in their learning, but also helps them improve their ability to code and recall vocabulary from their long-term memory. Moreover, students’ ability to improve coding and storing information in memory has been proven to be effective from one week (Shapiro & Waters, 2005), to 10 weeks (Condus, Marshall & Miller, 1986) after using the KWM. Thus, almost all the studies that have been conducted on the KWM showed that the KWM is an effective method for the retrieval of vocabulary where participants are taught a set of words with the created KWM versus other strategies. However, limited research has been conducted on whether learners are able to create a keyword and interactive image on their own. This is important to know because teachers cannot always provide keyword materials for their students. This may be for a variety of reasons (time, resources, skill or interest). Thus,
this research study seeks to understand whether it is possible to teach students how to use the strategy so they can apply it on their own, where they can create their own keyword and image. This study aims to investigate whether or not students will generalize the method in learning vocabulary on their own.

In addition, the descriptive KWM requires learners to create visual images by combining the keyword and the word to be learned. However, some students might lack the interest or skills to draw, or they rather want to sing a song or use their body movement to learn new vocabulary, depending on the intelligences in which they are strongest (Gardner, 2011b). Therefore, this study aims to explore the students’ ways in creating their own KWM when they are introduced with different strategies that help them incorporate their different intelligences.

**Purpose of the Study**

This exploratory case study aimed to investigate whether or not students will be able to generalize the use of the EKWM to learn other vocabulary. Further, it proposed to investigate how students create their own EKWM to learn vocabulary. Data were collected to answer the two research questions: (1) How do the students create their own keyword method? (2) Into what subjects, skills and tasks are students most likely to generalize the EKWM to learn vocabulary and why?

**Significance of the Study**

The significance of this study is that answering these two questions will help K-12 teachers develop a more effective means of teaching vocabulary (Raugh & Atkinson, 1975; Pressley et al., 1981; Sagarra & Alba, 2006; Shapiro & Waters, 2005). The proposed study will also contribute to the growing body of research on the advantages of
using KWM in vocabulary learning. It will help teachers to engage their students in learning and building their skills and creativity in creating their own, rather than depending on teacher-provided materials (Jenpattarakul, 2012). It will help save the teachers’ time and effort to create the materials. It will help students to learn vocabulary using their own intelligences while benefiting from the KWM.

**Trustworthiness and Dependability**

Triangulation serves as a strategy to promote trustworthiness and dependability of a qualitative study. Triangulation occurs by using multiple methods, multiple sources of data, multiple investigators, or multiple theories in order to confirm the results (Merriam, 2009). Therefore, reviewing the students’ artifacts and analyzing the interviews and the questionnaire will promote triangulation of data. Furthermore, in order to increase trustworthiness as well as credibility, some of the procedures proposed by Creswell (1998) will be followed such as providing a “rich, thick description—writing that allows the reader to enter the research context” (p. 203). Qualitative studies are designed to be highly contextualized, so readers look to see how they then apply those findings to other similar situation (Creswell, 1998).

**Positionality**

My epistemology has undergone a transformation to that of constructivist (believes in multiple truth and differences). Constructivist epistemology emphasizes that “All objects are made and not found but adds at once that the means by which they are made are social and conventional” (Crotty, 2007, p.52). Further, culture is the source of human thoughts and behavior rather than being the result of human thoughts. When we
view the world in a meaningful fashion we are viewing it through lenses based on our cultures and experiences (Crotty, 2007). In addition, knowledge for each person is constructed based on the individual’s experience (Egbert & Sanden, 2013).

Coming from a teacher-centered classroom environment, I have always liked to be told what to do and what is expected from me. However, during my graduate studies in the USA, I have met diverse people from all over the world. I started thinking about how unique each learner is, and how they learn differently. Courses that I took influenced how I looked at teaching and learning and I have moved away from teacher-centered and lecture based instruction.

I believe knowledge is subjective, contextualized, and personally experienced rather than acquired from or imposed from outside. I believe that students learn better when they are involved in the learning process. Because of my experience of studying and working with people from around the world, I believe that in terms of teaching and learning there are multiple truths based on individuals’ different experiences, cultures and backgrounds, which also affect how teachers/students interact with the world around them (material, texts, instructions). Thus, students should be taught differently and in a way that helps them succeed. Further, teaching should consider the individual and not just the group. In this way, instruction is differentiated for students’ multiple intelligences (Gardner, 2000).

I started to think of how this belief can be adapted and incorporated into my academic career. I have always been interested in mnemonic devices and a strong believer in their effectiveness in improving students’ spelling and vocabulary knowledge. I am specifically interested in the keyword method, and I think that is because my strong
intelligence is visual and I can learn better when exposed to pictures or drawing. However, going back to my belief about how people acquire knowledge differently based on their background and culture I thought of developing the method to benefit other learners who do not have strong visual intelligence or learn better in different ways such as movement or singing. Then, I came up with the *expanded* keyword method (EKWM), which does not limit learners to the use of visual intelligence but rather involves other intelligences.

**Note regarding terminology used in the paper**

1. I have used the words strategy and method interchangeably throughout the paper.

2. I have used the phrase KWM whenever I am referring to the literature review and studies conducted on KWM before this study; however, and because I came up with the phrase EKWM, it is used to refer to this current study.
CHAPTER 2
LITERATURE REVIEW

In this chapter I first start with an overview of the foundational framework, Dual Coding Theory (DCT), and how it supports KWM. Second, I discuss how KWM can be applied in the classroom and its effectiveness. Third, I review studies that have been conducted on the role of KWM for recalling words. Fourth, I discuss the effectiveness of the KWM with different age learners and over other vocabulary strategies. Finally, I introduce the EKWM, which requires incorporating a variety of intelligences.

Dual Coding Theory

History and Development

Dual coding theory (DCT) is an educational psychology theory developed by Allan Paivio (Paivio, 1971; Paivio, 2007). It has been described as one of the most influential theories in the twentieth century (Marks, 1997). In addition, DCT has been applied to different psychological issues such as thinking processes (Paivio, 1975), bilingualism (Paivio, 1986), and the psychology of reading and writing (Sadoski & Paivio, 2001).

DCT evolved from an imagery-based mnemonic approach rooted in the ancient method of loci (Sadoski & Paivio, 2001). This memory training employed both location (loci) and images, which helped people remember the order in which relatively familiar ideas were to be recalled. The loci are real places such as a house or a series of shops on a street known to the speaker. Images (or imagery) is divided into two kinds: images of words and images of things. Images of things refers to the images of concrete objects that aid the speaker in memorizing the topic whereas images of words refers to images of
either concrete objects or verbal associations that remind the speaker of specific words. Mental representation in the form of words and images can be mentally exchanged for one another.

*Figure 1:* How the human brain processes information in DCT (Paivio, 1986, p. 67)

The model above helps in explaining how Paivio’s DCT works by using human brain process. The model starts from the top, by showing verbal and nonverbal stimuli as detected by our sensory systems. The connection between the sensory detection and activation of either logogens or imagens forms the representational processing. A logogens system is a network that involves generating language where the verbal is
organized sequentially. In contrast, the imagens system consists of a set of images organized in overlapping arrangement. Then, an activity occurs between these systems, such as logogens to imagens or vice versa, which is produced through referential connections and is called referential processing. Next, an activity within a system, such as a connection between logogens and logogens or between imagens and imagens is produced through associative connection and is called, *associative processing*. Thus, DCT theorizes that these systems are capable of functioning independently, where one is activated but not the other, or in parallel, where each are activated simultaneously (and in a connected way). Finally, the model indicates that these systems, logogens and imagens, connected to sensory output, produces verbal and nonverbal responses (Paivio, 2001).

Human cognition is unique in that it has become specialized for dealing simultaneously with language and with nonverbal objects and events. Moreover, the language system is peculiar in that it deals directly with linguistic input and output (in the form of speech or writing), while at the same time serving a symbolic function with respect to nonverbal objects, events, and behaviors. Any representational theory must accommodate this dual functionality (Paivio, 1986, p. 53).

This theory argues that the learner processes information using two encoding systems, one for processing verbal information, and the other for processing nonverbal information. These two coding systems are separate but interconnected. Paivio (1971) claims that information is successfully recalled and retrieved if it is stored using a combination of both visual and verbal systems. In other words, if both of the functional locations are used to store information, the chance of recognizing and recalling information is expected to be strong.
DCT accounts for processing information using verbal and nonverbal cognition (Sadoski, 2005). DCT is based on neuropsychological findings, which argues that "both hemispheres are differently involved in both verbal and nonverbal thinking and behaviors" (Paivio, 2007, p.15). Nonverbal aspects of cognition, such as creating mental images as a trigger for a word, is one of the basic functions that helps researchers and educators to understand the interconnectivity with verbal, linguistic aspects of cognition (Sadoski & Paivio, 2001). Information is better remembered and human cognition is enhanced when information is stored using a combination of both visual and verbal systems compared to only using words (Paivio, 1971; Mayer & Anderson, 1991). Verbal-based strategies are less effective than nonverbal strategies because they only activate the verbal code, whereas image based strategies are more effective since they activate nonverbal (imaging) and verbal (labeling) (Beni & Moe, 2003). Therefore, if both input systems are used, it is expected that the recognition and recall of information will be strong.

DCT has been applied to teaching reading skills by introducing mental imagery and multisensory instruction to improve reading. Sadoski and Willson (2006) examined how the verbalization-visualization relationship in DCT affected students’ reading achievement (See also the Lindamood-Bell Learning Processes Program (LBLP), Sadoski & Willson, 2006). They found that students who were taught reading using the LBLP program outperformed those who were not. The results of this study support the DCT assumption because it shows greater gains in reading by students who were taught using two systems over those who were taught using the verbal system alone (Sadoski & Willson, 2006).
This research builds on earlier work by Sadoski (1985). He studied participants reporting their imagery and verbal thought processing while reading un-illustrated short stories, where students were taught to follow specific strategies. Third and fourth graders were asked to read aloud short stories and answer some questions, retell the stories, and to report any images they recalled before and after retelling the story. Participants who were asked to report climax images before recalling the story recalled more of the story compared to those who did not report images. Sadoski (1985) suggested that reporting climax images functioned as a kind of conceptual peg, which Paivio hypothesized to be a kind of scaffold to store and retrieve story information (Paivio, 1971, 1983).

DCT has been directly applied to teaching vocabulary. Shen (2010) argued that learning vocabulary occurs in two independent code processes: imagery code, which is creating a visual image to represent the word, and verbal code, which is verbally defining the word. Shen (2010) tested the effects of DCT in learning Chinese vocabulary for nonnative speakers of Chinese, by using either the verbal method or verbal plus imagery. The results indicated that the group taught vocabulary with the dual codes (verbal plus imagery) outperformed the other group, which learned vocabulary through verbal repetition. This result supports Paivio’s dual coding and emphasizes the importance of a method that involves visual and verbal codes in teaching foreign language vocabulary, such as KWM.

Shapiro and Waters (2005) argue that either system can be used to learn a specific word (sensitivity, is an abstract word, and may be most strongly coded verbally) compared to the other system (mouse, is a concrete word, and may be coded visually).
However, these coding processes can be overlapped, as in the use of the keyword method, which can activate both systems to learn a word (2005).

Just as this theory supports associating visual and verbal codes, KWM proposes to achieve the same goal. KWM connects unfamiliar words with known words through the creation of visual imagery, which makes learning words concrete and easier to recall (Shapiro & Waters, 2005). As stated by Paivo and Begg, the “Interactive mental image that connects the referents of a pair of words greatly increases the associative recall of the words” (1981, p. 310).

What is Keyword Method and How Can it be Applied?

Just as DCT incorporates the use of both visual and verbal systems, KWM requires incorporating both systems and works in two stages. It combines the verbal code, which is finding the keyword that sounds like whole or part of the new word, with the visual code, which is creating an interactive image that connects the keyword with the meaning of the new word (Raugh & Atkinson, 1975).

One way to apply the KWM in classrooms has been explained by King-Sears, Mercer, and Sindelar (1992, in Foil & Alber, 2002) using the acronym ITFITS. ITFITS's objective is to assist students in creating their own mnemonics for unknown vocabulary. The ITFITS steps are as follows:

1) Identify the new word (e.g. impecunious).
2) Tell the definition and meaning of the word (e.g. have no money).
3) Find a keyword that sounds or looks like the new word (e.g. Penniless)
4) Imagine the interaction between the definition and the keyword (e.g. “An imp tried to buy some food, but when he checked his pockets he found that he was penniless” (King-

5) Think about how the definition is related to the keyword.

6) Study what you created and imagined until you get the definition

**Why KWM is Effective?**

Studying KWM helps to identify important features regarding the general process of learning vocabulary. Vocabulary is learned more effectively when: 1) connecting the new words to students’ background; 2) using visualization to connect the new word to its definition; 3) making new vocabulary relevant to the learner.

Vocabulary cannot be learned separately; rather, it is learned through making associations and building on prior knowledge. One effective instruction is to activate background knowledge (Marzano, 2003). Vocabulary is acquired through connecting new information with known information. For example, KWM requires students to find a keyword that sounds like the word to be learned or part of it, which is already familiar to the student, in order to apply a new word definition to it (Mastropieri & Scruggs, 1991; Shapiro & Waters, 2005). In using KWM, students build associations between words from the same language or from another language. In addition, they make associations between the new word and its meaning and between words and visuals through creating images that connect the meaning of the word to be learned and the key-term (Shapiro & Waters, 2005).

Just as it is important for students to make associations between new and known materials to learn, it is necessary to connect teaching materials to students’ lives, backgrounds, personalities, and individual needs and interests (Mishan as cited in Liton, 2013, p. 31). That means teaching materials should be relevant to students’ background,
culture, and needs in order for students to be interested and engaged in the process and then learn. McCarville (1993) suggests that it is beneficial for college students to create their own keyword and images in order to improve their coding of learning and retrieval from their memory. When students create their own keyword, they are connecting “the image to their own way of thinking and their own experiential backgrounds” (Simpson & Dwyer, 1991, p. 11, as cited in McCarville, 1993). Students, in the creation of a specific word, could come up with different keywords based on their daily lives or their experiences. For example, in a group of college students who were tasked with choosing a keyword for “anomaly” (something irregular), a student, whose father was a Vietnam veteran, chose “Nam” to be the keyword. “Nam wasn’t a usual war, so we could use that,” he said (McCarville, 1993, p. 6). He is already familiar with Nam, as the shortened word for Vietnam, while others are not—this resulted in a disagreement from the rest of the group. Another member chose Moline, and said it would be unusual for her to go to Moline, which as well resulted in disagreement (McCarville, 1993). This example shows how each student comes with a keyword based on his experience and background.

Second, visualization and images, which are a part of using KWM, are another important factor in teaching vocabulary. Using pictures has been shown to be an effective method in teaching sight words for beginning readers and writers through the use of the picture word inductive model (PWIM). According to Joyce, Weil, and Calhoun (2009), “PWIM is an inquiry-oriented language arts strategy that uses pictures containing familiar objects and actions to elicit words from children's listening and speaking vocabularies” (2009). This model enables students to transfer the spoken words seen in the picture to the sight words. Similarly, KWM requires students to create an
image that connects the keyword to the meaning of the word to be learned in order to make learning more concrete (Raugh & Atkinson, 1975). Research has shown that concrete and easily imaged vocabulary are recalled more easily than abstract vocabulary words (Shapiro & Waters, 2005). Further, the study found that high imagery words can be recalled with greater success than low imagery words. The keyword method is believed to be an effective method because of its visual strategy. Vesely and Gryder (2007) examined the effect of using visuals on recalling vocabulary. They investigated whether teachers and teacher candidates utilize and support a visual imagery approach to learning vocabulary. These researchers found that educators recalled more vocabulary when using visual imagery strategy than when using rote-learning strategy. They also found that educators increased their overall comfort level and planned to use visual imagery strategy with their students (2007).

KWM also involves the use of visual and verbal processes. Verbal is shown in the use of definition and finding the keyword, and visual is shown in forming the interactive image that connects the keyword to the definition of the word to be learned. Information is recalled and retrieved if it is stored using a combination of both visual and verbal systems (Paivio, 1971). For example, if only one of the functional locations is used to store information, the chance of recognizing and recalling information is expected to be weak. Shen (2010), as mentioned earlier, found that vocabulary is learned better when using verbal and visual than when using only verbal.

Third, KWM makes learning vocabulary relevant to learners. It places the learner as an active participant who controls the path of his/her learning—which keeps the strategy perpetually relevant to learners' interests. Carney, Levin, and Levin (1993)
found that applying the KWM to the content of psychology courses makes the method relevant to students, creating a deeper connection to content. It is imperative that for knowledge, retention, and proficiency to occur, students must form a personal connection to materials. Similarly, the use of KWM helps students learn new vocabulary by connecting it to an existing word, either in the learners' native language or in the target language (Raugh & Atkinson, 1975). It plays a role in making associations between the word to be learned and other words when finding the key-term that has an acoustical relationship with the word to be learned (Raugh & Atkinson, 1975; Atay & Ozbulgan, 2007; Jenpattarakul, 2012). In addition, it makes association between the new word and its meaning and between words and visuals through creating images, that connect the meaning of the word to be learned and the key-term (Shapiro & Waters, 2005; Sagarra & Alba, 2006). Another example of how this strategy is relevant to the learner is that it requires their use of creativity in order to select an image as a part of the KWM process. In fact, Carny and Levin (1993) contend that the success of KWM occurs as students hold the option to produce interactive images while they are provided with the keywords and the definitions of words. Research has also discovered that increasing students’ cognitive efforts helps to boost memory storage and retrieval (Eysenck & Eysenck, 1997, as cited in Shapiro & Waters, 2005). For example, when students create their own keyword they increase their cognitive skills compared to when they receive previously created keywords.

KWM expands students’ creativity and motivation, which translates to students holding a more positive outlook and motivation towards the application of this method (Jenpattarakul, 2012). That is because students are involved in creating an image that
connects the key-term with the new word’s meaning. Creating images or using pictures is an effective strategy to learn vocabulary (Jenpattarakul, 2012). Most efficiently stored information in the long-term memory is the one that is learned through visual images (Oxford, 1990).

The KWM and Critical Thinking

It is important to use strategies that develop critical thinking skills in addition to learning skills around content alone. The KWM is an effective strategy that promotes critical thinking. In this section, I will start with defining critical thinking and then explain the effects of the use of KWM on developing critical thinking skills.

“Critical thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action. In its exemplary form, it is based on universal intellectual values that transcend subject matter divisions: clarity, accuracy, precision, consistency, relevance, sound evidence, good reasons, depth, breadth, and fairness (Scriven & Paul, 1996).

Critical thinking is defined as the ability to analyze and evaluate thinking for the purpose of improving it (Paul & Elder, 2009). Critical thinking is essential for students to be able to effectively deal with problems, make decisions and be effective in the workplace (Synder & Synder, 2012). It helps develop presentation and language skills; thinking clearly helps us express our ideas and develop comprehension skills during analyzing text structures (Yusuf & Adeoti, 2012).
Research has shown that developing critical thinking skills results in the ability to raise questions and identify problems clearly, collecting and evaluating related information to reach reasonable and logical conclusions and solutions, and assessing them against related standards. In addition, critical thinkers generally think open-mindedly in recognizing and testing assumptions, applications, and their consequences. Further, they tend to collaborate effectively in finding solutions to complex problems (Paul & Elder, 2009). Research indicates that critical thinking enhances creativity, where thinkers do not just find ideas and solutions; rather ideas must be useful and be modified to be suitable for different situations (Paul & Elder, 2004). They must show self-awareness, self-direction, and self-monitoring in making decisions, analyzing, and evaluating any inferences being made (Yusuf, Adeoye, 2012; Paul, Elder, 2009).

It is important when teaching content not to just focus on content and rather consider the process of how students learn to develop critical thinking. Synder and Synder (2012) agree instructions that foster critical thinking must activate skills such as analyzing, synthesizing, and evaluating rather than memorizing the information. Therefore, choosing the appropriate instructions to teach a specific content or terminology must be considered to develop critical thinking skills. Thus, critical thinking can be developed through teaching vocabulary with the KWM and EKWM. This is because students are required to do more than just know the definition and memorize the words. KWM is an interactive process that encourages students to develop links between their L2 and L1 or between vocabulary from the same language to find an appropriate acoustic keyword. In addition, through creating interactive images, music, poems, and actions to produce and represent word definitions, students develop analysis,
synthesis, and evaluation skills that are identified as signs of critical thinking (Paul & Elder, 2009).

Analyzing word parts, sound, and orthography to find the acoustic term to form the KWM (Raugh & Atkinson, 1975) helps develop analysis skills required for critical thinking. In the process of using the KWM, learners analyze the word orthographically by a syllable, or phonetically to find an acoustically similar word, identify its meaning, and form a mental image that associates the keyword with the definition of the word to be learned (Jenpattarakul, 2012). For example, the vocabulary word *jettisoned* can be analyzed syllabically into three syllables, the first of which sounds like “jet”. Students can then see the first syllable *jet* standing as a separate concrete word, which can be used as the keyword. Ubreti, Scruggs, and Mastropieri (2003) used *jet* as the keyword because it sounds like the first part of the word *jettisoned*, and they related it to the meaning of *jettisoned* “to throw overboard” through a picture of a jet with someone throwing packages overboard. Following such steps that are required to form the KWM would assist students in building their analysis skills and thereby develop critical thinking.

Further, just as critical thinking requires students to synthesize information, the EKWM purposes to achieve the same goal. The EKWM is developed through making clear and relevant connections between the word to be learned, and the meaning of it, which is done through forming the interactive image, poem, song and act that combines the keyword with the meaning of the word to be learned (Shapiro & Waters, 2005; Jenpattarakul, 2012). Collecting all this information and making such connections would help develop students’ synthesis skills and thereby develop critical thinking skills.
Further, another important fact that is shown as a result of critical thinkers’ behavior is the ability to work collaboratively to solve a problem (Paul & Elder, 2009), which also can be developed through creating the EKWM. For example, students are able to work in peer groups, where the group uses humor, creativity, and silly sentences to collectively come up with an image that can be applied to a keyword (McCarville, 1993; Carney et al., 1993). For example, McCarville describes a two students (Chris and Melanie) working on forming their own keyword for the word *peccadillo*, which means “a slight sin”. Chris suggested that *peccadillo* can be remembered by presenting himself stealing a dill pickle from the deli. However, Melanie disagreed because stealing from the deli represents a far more serious situation than the provided meaning of *peccadillo*. Then, she suggested that imagining Chris taking a pickle from her McDonald’s sandwich would form a reasonable keyword and image (McCarville, 1993). Analyzing what happened during cooperation within this group to come up with the keyword and image, it is clear that they were able to come up with an idea that represents the appropriate meaning of the word, which means that they were able to collaboratively find a solution that suits all, which is a result required from critical thinking.

Critical thinking enhances creativity and requires students to come up with ideas that are useful and suitable for their situations (Paul & Elder, 2004), which is similar to the purpose of the EKWM. Students are required to use their own cultures, ideas, native languages and personal experiences to build their KWM, to be useful and make sense to them (McCarville, 1993). Jenpattarakul (2012) found that the use of the KWM expands Japanese native speakers’ creativity and motivation to learn. They also found that students' attitude towards the use of the KWM was positive. KWM expands students’
creativity and motivation, which translates to students holding a more positive outlook and motivation towards the application of this method, which is critical for students' learning (Jenpattarakul, 2012).

For example, this strategy requires learners’ creativity in order to select an image as a part of the KWM process, which makes learners active and involved in the learning process.

In summary, critical thinking is required for students to be able to solve problems, make decisions, and successfully function in the workplace. Therefore, such important skills should be fostered in all classrooms because students spend most of their time in schools. Thus, teaching vocabulary with the EKWM will develop critical thinking skills, and should be applied.

**Studies on the Role of the KWM in Recalling Words.**

This section reviews the current body of research dedicated to vocabulary acquisition using the keyword method (KWM). First, I present practitioners’ evidence for the usefulness of KWM on recalling word meanings. Second, I review several empirical studies that have studied KWM in English as a foreign language and other foreign languages, such as Spanish, Latin, and English as a foreign language for Chinese and Japanese learners, and English terminology as a first language.

**Practitioners’ Evidence.**

School practitioners, such as McCarville (1993), strongly suggest that the use of the KWM is a suitable strategy for teaching new terminology to college students. KWM was found to be appropriate because the keyword and image can either be created
collaboratively or individually through the use of humor, creativity, and social interaction. KWM is the first step for learning a new word. This method also serves as a pre-comprehension strategy because it helps to recall the definitions of words (McCarville, 1993). Amiryousefi and Ketabi (2011) argue that the KWM is beneficial for enhancing vocabulary learning and improving memory. They suggest that the mnemonic strategy should be integrated into the classroom, as a complement to other vocabulary teaching strategies, in order to improve students' ability to recall difficult words (2011).

KWM has been found to be effective in helping English Language Learners (ELL) learn English vocabulary and improve their comprehension of word meanings. For example, Atay and Ozbulgan (2007) examined the benefits of using memory strategies, including KWM, within the context of English for Specific Purposes (ESP). Their study reported that the KWM increased their recall ability. Yeung and Heyworth (1992) found the KWM was able to help teach ELL vocabulary to native Cantonese-Chinese speakers. Based on their findings, Yeung and Heyworth suggested that the KWM be used with low-ability English learners in order to help reduce the language gap between them and high-ability English students. They found the KWM to work better with low English level students than with high English level students. The study also hypothesized that high English level students may develop their own tricks to learn vocabulary and thus might not need a new method unless the KWM is perceived to be more effective than theirs (Yeung & Heyworth, 1992). Jenpattarakul (2012) strongly suggests that the use of the KWM helps expand Japanese native speakers’ creativity, motivation to learn and their ability to recall English vocabulary. That is because of the involvement of creating an image that connects the keyword with the new word’s meaning. Creating images or
using pictures is an effective strategy to learn vocabulary. Most efficiently stored information in the long-term memory is the one that is learned through visual images (Oxford, 1990). KWM was identified as one of the 27-memorization strategies that Schmit has listed in his 58-item vocabulary learning strategies taxonomy (Schmitt, 1997). It is one of the three major strategies that Nation proposed to use with low frequency words and to direct attention in language classrooms (1990).

Even though some research has focused on the KWM with non-native English speakers, even more research has been dedicated to native English speakers learning new content on their own or content in a foreign language. This method is an effective strategy for teaching native English speakers Spanish and Latin vocabulary (Raugh & Atkinson, 1975; Pressley et al., 1981; Sagarra & Alba, 2006; Shapiro, & Waters, 2005). For example, the KWM has helped improve different age groups' ability to recall Spanish words, including children as young as 3 to 6 years old, while also benefiting students studying Spanish at an undergraduate level (Pressley et al., 1981; Raugh & Atkinson, 1975; Sagarra & Alba, 2006).

Although the keyword method is useful to learn foreign language vocabulary, it is also a powerful tool for learning English vocabulary for native speakers. KWM has also been found to be effective in helping native English speakers learn new vocabulary and improve their comprehension of word meanings. The method also helps learners to apply the proper definition of abstract or concrete word meanings to appropriate contexts (Mastropieri, Scruggs, Barbara & Fulk, 2001). Additionally, studies reveal that the method benefits grade school learners in inclusive classrooms, as they acquire story vocabulary through instructional-led story reading (Uberti, Scruggs & Mastropieri, 2003;
Fontana, Scruggs & Mastropieri, 2007). KWM also has a positive effect on students' ability to learn and recall social studies and introductory psychology terminology concerning the central nervous system (Fontana et al., 2007; Carney & Levin, 1998). The dynamic nature of KWM is also documented, as several studies have recommended that the method has been used to help learners develop a deeper connection to materials (Carney & Levin, 1998).

**Effectiveness of KWM Compared to Other Strategies**

KWM has been shown to be effective with learners from different age groups and more effective than other vocabulary strategies. This method was found to be advantageous in recalling more words with young children 3-6 years old, 12 year olds, high school aged students, and college level students (Pressley et al., 1981; Condus, Marshall & Miller, 1986; Mastropieri et al., 1985; Shapiro & Waters, 2005; Sagarra & Alba, 2006; Atay & Ozbulgan, 2007). When compared with other vocabulary strategies, KWM held several key advantages in controlled conditions, such as when participants were left to their own choice. In this case, students learned the definition alone or combined with other strategies, practiced repetition, learned through context, and learned through the combination of two or more strategies (Raugh & Atkinson, 1975; Mastropieri et al., 2001; Fontana, Scruggs & Mastropieri, 2007; Carney & Levin, 1998; Atay & Ozbulgan, 2007; Uberti, Scruggs & Mastropieri, 2003; Condus, Marshall & Miller 1986; Barcroft, 2009).

**Multiple Intelligences and the Expanded Keyword Method (EKWM),**

The EKWM is similar to the KWM with the advantage of incorporating different
intelligences rather than being limited to the visual intelligence as in the descriptive KWM. It works in two steps. First, learners find a rhyming word with the word to be learned. Second, learners combine the rhyming word with the meaning of the word to be learned using their own strong intelligences, such as verbal, visual, and kinesthetic (will be explained in detail later). The term *multiple intelligences* (MI) was introduced by Howard Gardner in the 1980s (Armstrong, 2003) and described as “an intelligence is a biopsychological potential to process information in certain kinds of ways, in order to solve problems or create products that are valued in one or more cultural settings.” (Gardner, 2011a). Intelligence is the ability in which people learn and think. It is the skill that makes the person solve problems, which involves gathering new knowledge, and it is the ability that makes the person productive in a culture (Gardner, 2000). Multiple Intelligences are linguistic, bodily kinesthetic, spatial, musical, logical, intrapersonal, interpersonal, and naturalist (Gardner, 2011b). Linguistic intelligence is the ability to present, recall, and remember the information. This is the most popular method in teaching in schools. Teachers lecture about the new knowledge, explain, and clarify while students receive the information and recall it in tests. Bodily kinesthetic is the capacity to learn and express learning and feeling through whole body by movement. Using this kind of intelligence would help learners to be active in class. Some students learn better the meaning of the new words through acting them rather than getting the oral or written definitions. Spatial Intelligence refers to learning through visualizing and imagination. Students are able to comprehend or express knowledge by graphing and picturing the providing information. Musical Intelligence is expressing comprehension through music. This category of intelligence has been used in transferring some
information by chanting and then transferring them from one generation to the next. Therefore, students can learn a new list of words by singing them or combining them to make poetry. They also can be provided with some instruments to divide words into syllables. Logical-mathematics intelligence is the capacity to express understanding through logic. Logic helps students learn the new words by dividing words into prefix, suffix, and root or by looking to the pictures to comprehend the meaning of these words (Armstrong, 2003). Intrapersonal intelligence is the ability to learn and express learning through emotion and feeling. For illustration, when students are asked to write the words scared and joy, their feeling is obvious by how they “squash” the letters together when writing scared and making large rounded letters for the word joy. Interpersonal intelligence is the responding to other’s mood in order to assist them and being able to work in groups and help one another to understand or meet the goals. For example, each student can be asked to be an expert in a letter or sound and help each other to learn the letters through cooperation. Students also should be provided with social issue such as racism to read or write about and reflect on. Naturalist intelligence is the capacity to interact and learn from nature and the environment. Students can learn letters from different sounds in nature. Students can go out for a walk and collect some things from nature and organize them into a poem or a story (Armstrong, 2003). The MI allows teachers to approach instructions and teach in different ways to effectively reach more students (Christodoulo, 2009).

Research has been conducted on the effect of MI on students’ performance and motivation and support its benefits. Implementing the MI theory helped teachers reach
more students and shifted their paradigm into a more student-centered approach (Haley, 2001). In addition, implementing the MI theory had positive effects on students and teachers and helped motivate students to learn (Haley, 2004).

Implementing multiple intelligences helps reach more students, motivate and help them achieve (Haley, 2001; Haley, 2004). Similarly, the KWM has shown to be effective in students’ vocabulary recall and motivation to learn. Because the KWM limits learners and teachers to the use of visual intelligence incorporating multiple intelligences into the EKWM potentially helps students benefit from the intelligences in which they are stronges. This study will explore the way students apply the EKWM, and whether this method is generalizable to other content areas.

Summary

Numerous studies have been conducted on the KWM and found its positive effects on vocabulary recall. However, limited research has been conducted on whether or not students can generalize the method to learn other vocabulary, and how they would create their own EKWM. Therefore, this study aims to explore students’ ways of implementing the EKWM and the generalizability of it.

The literature on Dual Coding Theory suggests that visual codes will support verbal codes. The theory does not explicitly address other modalities such as musical codes and kinesthetic codes. Thus, the EKWM explored how these modalities support word learning. This research is grounded in the Dual Coding Theory because it involves learning through the use of at least two different modalities: (1) using rhyming words and (2) creating connections between the word to be learned and the rhyming word through
drawing, singing, creating poems, or acting out. Learning using more than one way would help in learning and recalling information faster. The introduction of other modalities also ties this research into the literature on multiple intelligences. Teaching students through using multiple intelligences helps them succeed and motivate them to learn. Therefore, I expanded the KWM to go beyond visual and incorporate other modalities such as musical and kinesthetic to work for diverse students with different intelligences. The EKWM provides students with the opportunity to create their own poems, sing songs, draw pictures, and act out meanings to learn new vocabulary.
CHAPTER 3
METHODOLOGY

Data were collected through qualitative case study methodology and analyzed to answer the two research questions. First, how do students create their own KWM? To answer this question, artifacts were collected from the students’ creation of the keyword either in the classroom, or outside the English classroom. Second, into what subjects are students most likely to generalize the EKWM to learn vocabulary and why? To answer this question, outcome statements and focus group interviews were collected and analyzed.

Getting to the School and the study participants

The communication was done through email where a brief proposal about the study was sent to the school district through my dissertation committee member, Dr. Tariq Akmal. Dr. Akmal has worked with the local school districts and knows the high school’s principal. He asked if any teacher would be interested in trying the EKWM with his/her students. A ninth grade English teacher showed interest and eagerness to try the method, and she welcomed the study to be conducted in her classes. My advisor and I set up a meeting with her to talk about the study and how it could be conducted in a manner that benefits her and her students, and fits with their schedule and curriculum. After the discussion with the teacher, changes were made to the study’s methodology followed by approval from the dissertation’s committee and the Institutional Review Board. We agreed that the teacher would be the one who should implement the method rather than the researcher to follow the regular routine and to get accurate data. This helped me to have enough time to observe and take notes.
The teacher and I met to choose words that would be helpful to the students and suitable for what they are required to master. Then, we created songs, poems, acts and visuals for the chosen vocabulary to introduce the method and model it to the students. It was a fun and beneficial experience creating the materials with the experienced teacher because she knows her students and what would work better for them. For example, when we were working on finding rhyming words with *shoddy*, the teacher thought students are teenagers, and the word *hottie* will attract their attention. The teacher adjusted some other materials using technology on her own.

**Data Collection**

Data in a qualitative study typically consists of interviews, observations, documents, and audio and visual materials (Merriam, 2009). The data collection for this study consisted of classroom observation, students’ artifacts, students’ interviews, and students’ outcome statements.

**Exploratory Case Study**

This was an exploratory case study, which involved collecting information about a specific group or method to help the researcher deeply understand how the technique works. Part of the purpose of the study was to build theory and technique rather than test specific assumptions about that technique. An exploratory case study is used as a prelude to a larger investigation that would typically be quantitative in nature. This kind of study requires having a framework designed before conducting the study. It is designed similar to other social science research in terms of objectivity. This means that the researcher is required to articulate the procedure of the research so that this procedure can be used by others to replicate the study (Berg, 2001). The current study was conducted as an
exploratory study because there was little or no prior research conducted on students’ ability to create their own KWM. In addition, the study was conducted to explore students’ ways of applying the EKWM to other content areas. Generalization of the strategy to other content areas has not been examined previously. In addition, the case study was bounded by one teacher and two of her classrooms.

**Participants**

Participants for this study were an English teacher and 39 of her students (two classes) who were ninth graders in a high school in the northwest of the United States of America. According to the OSPI report card the school consists of about 676 students with 53.4% male and 46.6% female. Students are from a variety of ethnic groups, with around 73% white, 11.5% Hispanic and small percent of Asian, African American, and American Indian. Only 22% of the students are identified as low socioeconomic status, and 8.3% are special education students. Student graduation rates in the school are high at 89%. In addition, the average number of years for teacher experience is 14, and 75% of teachers have at least a master’s degree. The participants of the study were representative of the school’s population.

The sample was purposefully chosen based on the teacher’s willingness to participate in the study to introduce the new method to the students and because it aligned with the curricular needs of the students. Both of the classes are regular English classes that consist of students from different English levels.

**Classroom Observation**

I attended the whole class period for two classes where the teacher introduced the EKWM and its use in learning vocabulary. The teacher used three words, where each
word was taught in a few different ways such as acting out the word, singing a song, and writing a poem. Therefore, students could see how each method could be learned differently. During the observations, I would classify myself as “observer as participant” in which a “researcher remains primarily an observer but has some interaction with study participants” (Glesne, 2011, p. 64). I observed the teachers’ strategies in introducing the EKWM and how much scaffolding she provided to the students to help them create their own. I made sure that the teacher and the students knew the purpose of my presence in their classroom, which was observing not judging or evaluating, to avoid any non-natural behavior or reaction from any of them (Glesne, 2011, p. 69).

**Artifacts**

In the same period, after the teacher introduced the EKWM, the students then were asked to create their own KWM using different intelligences. The teacher chose some new words from the students’ curriculum and asked them to create their own EKWM to help them remember these words. Students were given the list of words with their definitions, and they were required to work collaboratively to create their own strategy for a specific word using a template (Appendix, 1). The template covered four methods and included several steps for each method to help direct students to create their own KWM. They were asked to indicate the chosen method (in the template) for the first chosen word, share their creation and be recorded. Then, they were asked to work on the second word following the same steps. These artifacts were collected from the students by the end of the class period. Furthermore, students were assigned to create some KWM for about three of the words that they learned in other classes as their homework, and they were asked to submit these to the teacher a week later. These were collected and analyzed as well.
Outcome Statement

Students were asked to reflect on what they did during the intervention and how they created their own EKWM. They were asked to answer a few questions that covered the words that they created, and in what tasks and activities they were involved. The outcome statements were given to the students to complete once they created their KWM at home (see Appendix 2 for details).

Focus Groups’ Interview

Two weeks later, and after I looked at the students’ outcome statements and artifacts, I interviewed the students whose responses to the outcome statements were interesting. For example, students who stated that the method was beneficial, fun, interesting, engaging, good, or effective were interviewed. They were interviewed in small focus groups, which were utilized to find out about people’s opinion regarding a specific product, subject or item (Rabiee, 2004). Digital recorders were used to audio record the sessions and listen to the interviews as many times as needed to transcribe and then see and analyze patterns between these interviews, which cannot be identified through only taking notes. These interviews were semi-structured which is defined as involving open-ended questions that do not force the interviewee to choose pre-established answers, and to give rich detail that is used in qualitative research (Lofland, Snow, Anderson, & Lofland, 2006). Interviews were conducted during the English class period because of time constraints and accessibility for both the researcher and the participants. Focus group interviews were chosen because teenage participants are more likely to discuss the topic with their peers than alone with a researcher. Students had the chance to form their groups for the interview to feel comfortable and engage with each
other when sharing their opinions (Rabiee, 2004). During the interview, I took some field notes to help catch some of the expressions that could not be caught by the digital recorder (Glesne, 2006).

**Data Analysis**

**Analysis for Question 1.** *how do students create their own KWM?* To answer this question, artifacts collected from the students’ creation of the EKWM either in the classroom or outside the English classroom were analyzed using preset categorization. Preset categorization works through listing some themes before categorizing the data and then searching the data to find a match (Taylor-Powell & Renner, 2003). Themes consisted of the methods, such as visuals, songs, or body movements that were used to introduce the students to the EKWM. Therefore, in my analysis of the artifacts, I described the different ways students came up with their own EKWM. I included visuals of the artifacts in my description, and I presented as much detail as possible so that the reader was able to gain a more complete picture of the classroom. Further, I looked for whether the students went beyond the descriptive KWM when creating their own KWM using their strong intelligences, such as kinesthetic, verbal, spatial and musical.

**Analysis for Question 2.** *Into what subjects are students most likely to generalize the KWM to learn vocabulary and why?* To answer this question, I provided and described some of the students’ creations from their homework artifact following the same approach that I used for the first question with the focus on the academic subjects (content areas and languages). Further, outcome statements and focus group interviews were analyzed using the general inductive approach (Thomas, 2006). This data analysis can “condense extensive and varied raw text data into a brief summary format,” (p. 2)
and it can establish links between the research objectives and findings derived from the raw data. This approach was applied using the following steps. First, I started by transcribing all the interviews and organizing all field notes. Second, I read the transcripts and notes several times to get the whole picture. Third, I coded the data to identify themes related to research objectives. Finally, I wrote the results.
CHAPTER FOUR
RESULTS AND ANALYSIS

In this chapter, I answered the two research questions. First, how do students create their own KWM? This question was answered through the analysis of classroom observations. I present scenarios of what I observed followed by an analysis. Second, into what subjects are students most likely to generalize the KWM to learn vocabulary and why? This question was answered through an analysis of students’ artifacts that they created outside the English classroom. I also analyzed and presented their outcome statements and interviews.

Classroom Scenario 1.

This scenario shows that students created their own KWM to help them remember the meaning of new vocabulary. They drew pictures, wrote poems, sang songs and acted out. They were snapping, dancing, moving and singing.

The teacher started the lesson by telling the students that they would be learning new vocabulary through four different ways, such as singing a song, writing poems, drawing pictures, and acting out or using their bodies to express the meaning of the words. The teacher used Power Point to explain the new ways students could learn vocabulary and to share some examples. She started with the word *bilk*, and asked whether any of the students knew the meaning of the word. However, none of them were familiar with it. After that, she provided the dictionary definition for it, which is *to cheat or defraud, or escape paying one’s debt*. She then told them that the word *bilk* sounds like *milk*. She explained that both the new word and the rhyming word would be used together in some
creative ways to help them remember the meaning of the new word *bilk*. The first way was through creating a poem that covers both words *bilk* and *milk*. The poem was:

*You left the milk by the door*

*To be bilked by a boar*

She commented on the poem saying “Now you get the image of you leaving the milk by the door and a pig runs along and steals your milk”.

Then she introduced the second way through showing a picture that contained an interaction between both words *bilk* and *milk* as shown below.

*Figure 2. Bilking milk (Sam, Max, & Burchers, 1998, p. 168).*

She explained that this person in the picture is bilking milk from cows.

The teacher introduced the third way, which was singing a song using both words. She shared a poem and a picture that express it, and asked the students to sing it with her to the tune of *Twinkle Twinkle little star*. The poem was

Milk, milk, milk my cow

Or else I’ll need to bilk from a sow
She then commented on the method that she used by saying “But the idea is that when you think of bilking you think of milk and you remember the song which leads you to the definition”.

The teacher introduced the fourth way to teach the meaning of the word *bilk* which was through acting it out. The teacher explained that students can create a skit or pantomime to help them remember the word. She did not design a skit; instead, she used the same poem from earlier and acted it out. The poem and the acting by the teacher was “You put (she put down) the Milk by the door (pointed to the door) To be bilked (slap!) by a boar. She told the students that another option to help them remember the meaning of *bilk* could be through having a masked person take the milk.

The teacher then moved to another word, *derelict*, provided its dictionary definition, *deserted, abandoned, or neglected*. Then, provided a rhyming word with it, *deer lick*. A student after hearing both words said “they do not have anything”, he meant there is no connection between *deer lick* and *derelict*. The teacher responded, “We will find a way to make the connection. We will find something”.

Then, she shared a poem that covers both words and expresses the meaning of derelict:
Left alone to set with ticks

Bob and Tom were derelict

Awaken suddenly by happy deer lick

She then clarified the poem saying “Tom and Bob were abandoned in their little field and were awakened suddenly by deer lick”.

The teacher afterward explained another way to learn the word derelict through drawing a picture of two abandoned men in the desert being licked by deers as shown in the figure below.

![Deer licking derelicts](image)

Figure 3. Deer liking derelicts (Sam, Max, & Burchers, 1998, p. 168).

The teacher then showed her students the third word, *shoddy*, and its definition, *of poor quality or make*. She asked them to work in their previously assigned groups to determine a rhyming word with *shoddy* and to find a way to help them remember the definition of it. Some students shouted the word *potty*. Then, the teacher mentioned that
they could use *potty* as the rhyming word. She reminded them whether they are creating a poem, singing a song, drawing a picture or acting out, they need to use both the new and rhyming word. Students were told to use a template based on the chosen method to help them create their own, and then have it done in five minutes.

The students in their groups created a variety of methods and then were asked to share their creations with the whole class and be video recorded. Students were so loud, singing, clapping, snapping, moving legs, drawing. Ten minutes later, the teacher asked them to share their creation. The following are some of the examples. Some groups drew pictures using different rhyming words such as potty, karate, and naughty. For example, one group drew a picture that represents the meaning of *shoddy* using their rhyming word *naughty*. Their picture is about a naughty person who turned out to have a shoddy future, which is becoming a homeless person as shown in the picture below.
Other groups wrote poems using other rhyming words such *body* and *lobby*. For example,

*Bobby’s car body*

*Was shoddy*

*In the lobby*

Further, another group sang a song using the word *shawty* as their rhyming word with *shoddy*. The group explained that the following song that they created is by Iyaz, who doesn’t hang with good people.

*Shawty like a melody*

*So shoddy*

*Lookin like Lohan*

*Trying to get a man*

*Trying*

*Naa Naa Na Na*

*Everyday*

*No like seriously*

*Everyday*

After each group member shared their creation for *shoddy*, the teacher showed a list of English vocabulary and their definitions as follows:

*Dependent clause: A group of words that cannot stand alone as a complete sentence. It is dependent on another clause.*

*Independent clause: A group of words that can stand alone as a complete sentence.*

*Simple (Sentence): A group of words that can stand alone as a complete sentence.*

*Compound (Sentence): A sentence that consists of two independent clauses joined by a coordinating conjunction.*
Complex (Sentence): A sentence that has one independent clause joined by a dependent clause using a subordinator.

Compound-Complex Sentence: A sentence that has at least two independent clauses and at least one dependent clause.


Subordinator: A word that functions to join two independent clauses, making one clause dependent.

The teacher asked each group to work on a specific word and come up with a way to help them remember the meaning of the words. Students had some time to decide on which method to use and then a member of each group went to the teacher desk and selected a template. Seven minutes later all group members were finished with their creation and were ready to share with the whole class. One of the groups drew a picture that represented the meaning of the word simple (simple sentence) using the word simple, and the rhyming words pimple and dimple. They drew a picture of a girl, who has a pimple on her dimple, as shown in the picture below.

\[\text{she got a pimple}
\]
\[\text{It was in her dimple}
\]

--- Simple Sentence

[Image of a girl with a pimple on her dimple]
Another group acted out the meaning of dependent clause, by using the rhyming word pendant. They wrote this sentence “as Jacob and Taite were having a snap off, Ryley showed Lili his pendent.” They then acted it out by having two of the group members snapping off, while the third member was showing the fourth one his pendent. Other group created a poem for the word compound using down town as the rhyming words.

*I walked down town to the lost and found,*

*But instead got chased by a hound.*

In the few remaining minutes, the teacher distributed the templates and told the students to find three new vocabulary words from other classes and create their method, and to fill the outcome statement attached to it and then submit it next week.

**Scenario 2**

In the second class, the teacher followed the same format as the first class, and introduced the same vocabulary with the same strategies. The students’ reactions were similar to the first class; they were even louder and more excited although it was the last period of the day. When the teacher sang a song about the word bilk, to the tune of *Twinkle Twinkle little star*, a student sang it to the tune of *Row, Row, Row your Boat,* *gently down the stream.* The teacher then asked the students to work on the word shoddy and create their own strategy. They came up with some fun and creative ways. They sang songs, acted out, drew pictures, and wrote poems. For example, one group sang this song:

*There once was a little man named shoddy Groddy,*

*He unimpressed lots of hotties with his poor quality body.*

*Groddy sat on the potty at his friends’ party,*
But the shoddy potty broke because of Groddy’s body,

But Beyonce came up from behind him and made him a hottie.

Shoddy body Groddy is now a super hottie.

He changed his name 5 years later to super quality Groddy.

Then, the teacher provided them with the list of English vocabulary to create their strategy. One group created a poem for the word *Denotation* using *denunciation* as the rhyming word.

*The point of a denotation*

Is a denunciation of

*The cultural conversation put those together*

That is not common information

That is the dictionary definition

Another group sang a rap song to help them remember the phrase compound- complex sentence. They performed the rap in their group in a call-out-and-respond style. One student said the word in the first column (e.g. *Compound!*), and the other student(s) responded with the second column (e.g. *can’t even fly solo*) the song went:

*Compound!*  can’t even fly solo

*Complex!*  if you put those together do you know what you get?

2 clauses!

one next  compound complex

independent by itself  just add another

it forever alone  independent

but dependent
Another group drew a picture to help them remember the word subordinator using the rhyming word *escalator*. They drew a picture of an escalator where the steps are the different subordinators, and the two people are the independent clauses. The escalator joins the two independent clauses together (as shown in the figure below) to make one dependent.

**Analysis and Discussion for Question One**

The first question, *How do students create their own EKWM?*, was answered through the analysis and discussion of the above two classroom scenarios. The teacher used Power Point to explain the new ways students can learn vocabulary. She taught the students new vocabulary through the EKWM where students were encouraged to explore different intelligences. Each word was taught using a couple or a few different intelligences such as using kinesthetic intelligence to act out the word and using musical
intelligence to sing a song, so students could see each word to be learned differently and in the way they felt comfortable or they preferred to learn. She started with fun and easy words to be imagined, and then some English academic words, which are abstract words, and maybe harder to be imagined.

Students worked cooperatively in their pre-established groups. Students working in groups with whom they were already familiar helped them to be comfortable and be uninhibited so that they were better able to be silly and creative, an important component when creating KWM (McCarville, 1993). In addition it helped them to understand the methods better and have the chance to see it implemented twice before they tried it individually. Creating KWM can be successful by relating the new word to the rhyming word through the creation of something strange, or nonsensical using humor, and social interaction (McCarville, 1993).

Students were provided with the KWM templates to help direct them to create their strategies for remembering the meaning of the vocabulary. The template is a necessary scaffold for the students as they learn how to create their own KWM, especially since it is a nontraditional method for them, and requires time and training to create by themselves (Raugh & Atkinson, 1975). From the observation and the artifacts of the KWM creations in the classroom, I found some interesting points regarding the use of the template. First, almost all of the students chose to follow the template closely, with only a few of them skipping some of the steps. However, all of the students came up with a rhyming word, and used it combined with the new word to create their picture, song, skit, and poem to express the meaning. Finding rhyming words helped the students to practice the pronunciation of the word, which would help them learn the new word. It has
been argued that knowing how a word sounds must be known, as well as how it is written, before the word can be learned (Sedita, 2005). Additionally, learning the pronunciation of the word and practicing it likely increased students’ retention skills (Jenpattarakul, 2012). Researchers suggest that teachers ought to direct attention towards how words are pronounced, especially the stressed syllable, because sounding out the word helps in storing it in memory (Thornbury, 2008).

Second, students in different groups came up with different rhyming words and then ended up deciding on one word to be used. For example, for the word denotation, they came up with rhyming words such as information, location, relation, concentration and denunciation. Students came up with some rhyming words based on their prior knowledge and experience (Mastropieri & Scruggs, 1991; Shapiro & Waters, 2005; Simpson & Dwyer, 1991, p. 11, as cited in McCarville, 1993).

Students used their different intelligences to help them remember the meaning of the new words. They used their musical intelligences to write poems and sing songs, they used their visual intelligences to draw pictures and used their kinesthetic intelligences to act out the meaning. For example, when the teacher asked each group to choose a strategy to help them remember the new word, a variety of choices were shown. Students have different intelligences, and they can learn better when they are taught with different strategies that match their strong intelligences (Gardner, 2011b). The students, in addition, applied different strategies with different words. For example, some of the groups who chose to draw pictures for the word shoddy, also wrote a poem and sang a song for the English words. Some may argue that this might be because the word shoddy can be highly imagined compared to the English words subordinator. Research has shown that concrete and easily imaged vocabulary are recalled more easily than abstract vocabulary.
words because concrete words activate both verbal and visual codes. This was referred to as the concreteness effect, where concrete nouns are processed more accurately and faster than the abstract nouns (Shapiro & Waters, 2005; Jessen, Heun, Erb, Granath, & Klose, 2000; Paivio, Rogers, & Symthe, 1968; Paivio, 1978). However, from the different groups’ creations, I realized that each word can be learned with a variety of strategies based on the students’ strong intelligences.

An important observation from the classroom data that is also supported in the literature is that a single strategy is neither appropriate for all words nor suitable for all learners (Chapman & King, 2005). Therefore, a strategy that fits one word might not be suitable with the other word for the same person. During the observation I realized that some groups used a variety of methods, such as drawing and singing, for different words, while other groups used the same method for multiple words. By providing a variety of methods for using the EKWM, teachers are more likely to match the method to individual intelligences. Based on the variety of ways in which the children experimented with different modes for the KWM, it appears that the teacher in this case was successful in matching the method to learners’ intelligences. The data suggest that introducing students to a method that involves their strong intelligences not only provides opportunities for students to practice the new words, but also engages them in vocabulary learning, apparent in the lively, animated class period observed. Implementing a variety of strategies that involve different intelligences has shown positive effects on both students and teachers and helped motivate students to learn (Haley, 2004). Further, The data showed that students were engaged and motivated in the task, which would help them to learn. Engagement and motivation are key for students’ literacy development. Students
who are motivated to read, write and think are more likely to be engaged in reading, thinking, and writing and will develop literacy (Meltzer & Hamann, 2004).

Some of the students in addition were creative and used a combination of strategies. For example, for the phrase simple sentence, they wrote a poem and drew a picture that reflects the poem, and it expresses the meaning of the word as well. This was mentioned earlier in the paper.

Students were involved and enjoyed the strategy. It allowed them to move, use their imagination to create a relationship between the new word and the rhyming word, sing songs, write poems, and act. It also opened the way for them to be goofy, silly, and to make jokes. Students created a variety of strategies that involved visuals, language and movement, which helped them to be engaged in the process. Implementing the method supported student-centered instruction, which required the students to be active participants in their learning (Shapiro & Waters, 2005). A student playing an active role in how they choose to learn a new word is identified as an effective learning strategy (National Reading Panel, as cited in Lehr et al., n.d.).

Through the use of KWM, students did not just learn vocabulary, they also learned grammar. They used the method to help them remember some of the grammar rules such as the phrase simple sentence, and compound complex sentence. During their creation of the KWM to help them remember the meaning of the phrase, students applied grammatical rules they were learning or had learned previously. For example to remember simple sentence, students created a poem using two simple sentences “she has a pimple. It was in her dimple.” In addition, they drew a picture to help them not just remember the meaning of the word but also how a specific word has a rule in grammar.
For example, the word *subordinator* was represented with a drawing to help them remember different kinds of subordinators as well as their rules in combining two clauses (subordinate and main) to make a clausal relationship (See figure in result section p. 42).

From the class observations, it is clear that the use of EKWM did not just help the participants learn vocabulary; it also helped them develop critical thinking skills. For example, when students worked cooperatively to create their own EKWM, they started by analyzing the word parts and finding a rhyming word. They came up with multiple words for each word and then had the chance to decide on the best rhyming word for each word to be used such as the word *denotation* (as explained earlier in the analysis and discussion section). Here it is clear that they were able to cooperatively decide on a specific acoustical link, and then solve problems, which is a sign of critical thinking skills (Paul & Elder, 2009). In addition, while critical thinkers should be able to analyze information, they should be able to synthesize and make sense of it (Scriven & Paul, 1996; Paul & Elder, 2009). Thus, and from the participants’ examples above, it is obvious that they were able to synthesize the information when making connections between the rhyming word and the word to be learned. They used the connections to create songs, poems, drawing and skits to help them remember words. These expressions of their creativity helped develop critical thinking skills (Paul & Elder, 2004). They used their own experiences and cultures when creating their own KWM and EKWM, to make learning relevant. For example, when they chose to sing songs, they sang it to the tune of songs, such as Twinkle, twinkle little star, which they already know.

**Question 2 Result and Analysis.**

The second research question was *Into what subjects are students most likely to*
generalize the KWM to learn vocabulary and why? This question was answered through an analysis of students’ artifacts that they created outside the English classroom and their outcome statements.

Students creatively extended the method into learning vocabulary from different subjects, topics, and even languages. They applied it in English, Spanish, Statistics, Math, Physical science, Food Nutrition, and SAT words. They used multiple intelligences in writing poems, drawing pictures, singing song and acting out the meaning.

Students applied the method to learning English vocabulary such as grammar rules and SAT level words. An example of the grammar rules can be viewed through the drawing of a picture to help learn the word clause using claws as the keyword. The picture below shows the connection between the new word and the keyword, where the clause-bot 2000 (playing off of the words clause and robot) is grabbing the parts of a clause: verb and noun.
They also created some strategies to help them learn SAT words such as *colloquial*. A student wrote a limerick poem to remember the word *colloquial* using *microbial* as the rhyming word. Below is the poem:

*The new word I chose is colloquial,*
*And no it is not a binomial,*
*It’s a simile to slang,*
*The definition is spang,*
*The best part, it rhymes with microbial.*

Just as some students applied the method to learning difficult English vocabulary, some other students applied the method to learning Spanish words such as *escuchar*, which means to listen. A student drew a picture to help him remember the meaning of the Spanish word *escuchar* using *jaguar, matar, and cantar*, as the rhyming words. The student created a relationship between the new word and the rhyming words as “*El jaguar decidió matar a Justin Bieber, ya que tenía que escucharlo cantar todos los días*”, which means, the *jaguar* decided to kill Justin Bieber because it had to *listen* to him singing everyday (see picture below).
Further, they generalized the methods to learning other content vocabulary such as Food and Nutrition, PE, Statistics, Marketing, Multimedia, and Science. Some students applied the method to learning food and nutrition vocabulary. For example, the word *dice* was learned through drawing a picture using *mice* as the rhyming word. The picture below shows that the mice diced the cucumber.
Students generalized the method to learning PE vocabulary. For example, a student drew a picture to help him remember the word *overload* using the word *overflowed* as the rhyming word. The picture shows that overloading stuff into a truck made it overflow.

![Picture of a truck overflowing]

In addition, they generalized the method to help them remember statistics terminology. For example, a student created a song about the word *probability* using the rhyming word *responsibility*. She created a relationship between probability and responsibility through imagining what the probability of a teenager having responsibility is. She sang the following song to the tune of *Oh My Darling, Oh my Darling Clementine*:

*Probability. Responsibility*

*What is the chance of having both*

*As a teenager in high school*

*I would say, almost zero.*

Further, they generalized the methods to learning vocabulary in other subjects such as Marketing, Multimedia, and Science. For example, in learning Marketing vocabulary, a student wrote a poem to help him remember the *SWOT*, which is an
acronym for the analysis of a company’s strengths, weaknesses, opportunities and threats. He came up with the word *forgot* to rhyme with *SWOT*, and wrote the following poem:

*To pass Mr. Will’s marketing class*

*You have to remember SWOT:*

*Strengths, weaknesses, opportunity, threats*

*Oops, I already forgot.*

Some students generalized the method to learn Physical Science vocabulary. For example, the word *precision* was explained through the creation of a song using *decision* as the rhyming word. The relationship was created as precision helps you make your decision of how consistent your measurements are, and then the student sang the following song to the tune of *The itsy bitsy spider.*

*Precision helps you make your decision of how consistent your measurements of an objective are*

*you calculate this by using the mean*

*of all the measurements density.*

In Chemistry they applied the method to learn terminology. For example, to learn the word *proton*, a student came up with rhyming words to incorporate into a skit. The rhyming words were *electron* and *neutron*. Then, to remember the meaning of the word, he wrote a skit for two characters: Barfee *Electron* and Paula *Proton*

*Barfee=I love dogs*

*Paula= I hate dogs*

*Barfee=I love Vlod the tiger.*

*Paula= I hate Vlod the tiger.*
Barfee=I love you Paula, will you marry me!

Paula=Eww....why?

Barfee=Paula, opposites attract you see. You are a proton, while I am an Electron!

Therefore, we are distend [sic] to be together!

Paula= Sorry, Barfee. I already have a husband named Jimmy Neutron.

Discussion for Question 2

Students were able to create their own EKWM and generalize the method to learning new vocabulary in other content areas besides English Language Arts. This observation is novel in the literature, and to my knowledge it has not been reported in earlier studies. Students were able to create their own EKWM after being introduced with and practiced it. They were introduced to four different kinds of the EKWM, and then they were able to apply the method on their own at home. From students’ artifacts, I found that they applied the method to learning vocabulary for different languages such as French and Spanish. Descriptive KWM has been found in the literature to be an effective method for learning foreign language vocabulary such as English, Spanish, and Latin (Raugh & Atkinson, 1975; Pressley et al., 1981; Sagarra & Alba, 2006; Shapiro, & Waters, 2005). Participants in the current study showed that they could generalize the method to learn vocabulary of a variety of subjects such as Food and Nutrition, Marketing, Physical Science, Statistics, and Chemistry when they had the chance to incorporate different intelligences.

Students created their own EKWM using a variety of intelligences, such as visual intelligences to draw pictures, musical intelligence to sing songs and write poems, and
kinesthetic intelligence to act out, rather than just applying the descriptive KWM and be
limited to the visual intelligence. This means that students utilized the methods that
match their strong intelligences to help them learn better (Gardner, 2000, 2011). In
addition, they applied the suitable methods for certain words from different subjects.
Some words may be strongly represented visually while other words can be strongly
represented verbally (Shapiro & Waters, 2005). For instance, concrete terminology in
disciplines like Food and Nutrition may be represented more visually compared to
abstract vocabulary in subjects such as Chemistry and Statistics. For example, students
learned the concrete words *dice* and *beat* through drawing pictures while they chose to
represent other more abstract words such as *proton* and precision through singing a song
or writing a poem, echoing many authors’ findings around the concreteness effect on
word recall, recognition and learnability (Jessen, Heun, Granath, Klose, (2000); Paivio,
Rogers, & Symthe, 1968; Paivio, 1978). Thus, it is important that teachers provide their
students with a variety of strategies that match their intelligences and can work for
abstract and concrete vocabularies. The current study shows that when given the
opportunity, students are able to generalize the method to learning on their own rather
than just receiving the created material. Students who expend the effort to create their
own EKWM are more likely to remember the words better (Eysenck & Eysenck, 1997).

Students being able to generalize the method to learning vocabulary on their own
would help teachers to stress less about creating the EKWM and may only require them
to introduce the methods to their students. It will also save teachers’ time and effort to
create the materials. In addition, students being able to create their own can help them
choose the strategy that fits their intelligences and make the learning relevant to them
especially when they are applying their own experience and background knowledge or culture.

**Interviews**

Two weeks later and after I had the time to look through the students’ artifacts and outcome statements, I conducted interviews with 13 participants who showed interest in the EKWM when answered the outcome statement questionnaire. The interviews were conducted in small groups to help us understand more about students’ perspectives and experiences with the methods, and then I synthesized, analyzed and coded the students’ responses, and extracted some interesting ideas or facts.

First, students are different in their way of learning and it is necessary to provide them with strategies that match their learning preferences or needs. Students expressed their opinion regarding different strategies that they preferred and others they did not favor. For example, some students loved to draw pictures but did not prefer to sing a song. A student reported that saying, “I really did not like to do a song, but I liked the drawing better because it was self explanatory.” Further, some participants claimed that they tried to draw funny pictures because they believe funny drawings would help them remember vocabulary. In the literature, it has been argued that creating KWM should be silly, and nonsensical to promote memory and recall (McCarville, 1993). Other students liked to write poetry stating that “I usually write poetry and it really helps a lot”, and some liked to use their imagination stating “I imagined an interesting scene.” Students learn most effectively when they are introduced with the strategies that match their intelligences (Gardner, 2011b). Thus, teachers should differentiate their instruction and teach for
diverse students, who learn differently based on their intelligences.

Second, the EKWM is an interesting strategy in vocabulary learning. Students reported that the use of EKWM is fun and it differs from repetition and flash cards (the traditional strategies with which they are used to learning vocabulary). Students reported that the EKWM makes learning interesting and it helps them remember vocabulary. In a recent study, researchers found that 75% of students reported the KWM is an interesting strategy in learning vocabulary (Chen & Hui-Jung, 2010). In this study, students believe that the EKWM engaged them in the learning process and sparked their interest. For example, one participant said that the EKWM “makes you use your body, it is active, and not like boring and just sit down and look at the paper, it actually gets you interacted with cultural learning and helps you learn more.” Further, students believed that using EKWM makes learning vocabulary “easy and sticks in your head, and “easier to remember in the test.” Many researchers supported the positive effect of the KWM on vocabulary recall (Pressley et al., 1981; Condus, Marshall & Miller, 1986; Mastropieri et al., 1985; Shapiro & Waters, 2005; Sagarra & Alba, 2006; Atay & Ozbulgan, 2007).

Third, students expressed their appreciation of the EKWM and its effect in activating students’ creativity. Students commented that the use of the EKWM to learn vocabulary is a creative way to introduce new things. For example, one student said, “it expresses our creativity” and another said, “I guess like now we explore a new way to do it. Now we have new ideas to help us memorize words.” In addition, they emphasized the effectiveness of the methods in promoting students’ creativity as well as the positive impact on learning vocabulary. A student said, “I think it is a good chance to be creative while helping yourself memorize it.”
Fourth, participants mentioned that the EKWM required more time to create compared to other strategies such as creating flash cards or repetition. For example, a student reported that “It did take more thought into each word,” while another said, “it takes a little bit more thought to come up with it.” However, participants realized that while the EKWM required more time to create, it required less time to remember. Some of them thought that using other strategies apart from the EKWM “would take about the same amount of time to memorize the word.” Eysenck and Eysenck (1997) found that increasing cognitive efforts helped boost memory storage and retrieval, which appeared to be evident here.

Fifth, some of the students claimed that finding the rhyming words to use in creating their KWM was difficult. A student stated, “It is also hard to find the word that rhymes exactly with some of the really long words.” It will be beneficial to provide the students with some way that they can find the rhyming words easily. For example, with the increase of and easy access to technology, students can be provided with some resources such as online links where they can enter any word and get a list of all the rhyming words and be able to choose what they liked. In the literature, it was found that the success of KWM occurs because students take the option to produce interactive images while they are provided with the keywords and the definitions of words (Carny & Levin, 1993).
CHAPTER FIVE
CONCLUSION

This exploratory case study aimed to answer two research questions: (1) How do the students create their own keyword method? (2) Into what subjects are students most likely to generalize the EKWM to learn vocabulary and why? Findings from classroom observations and artifacts showed that participants were able to apply the method to learning English vocabulary and grammar rules after being introduced to it in class and having the chance to work in groups. Further, results from homework artifacts, outcome statements, and interviews showed that participants were able to individually apply the methods outside the English class. For example, they generalized the methods to learning terminology in other subjects such as Food and Nutrition, Chemistry, and Math. They also extended the methods to learning vocabulary of foreign languages such as French, and Spanish.

Limitations of the Study

Despite these promising findings regarding the extended KWM, there are some limitations to the study design. In terms of participants, the current case study was conducted with only one English teacher and two of her classrooms. Students seemed to like their teacher and were willing to try the new methods. Thus, the engagement and generalization of the methods in the class could have been influenced by participants’ relationship with the teacher. Nevertheless, many of the students shared their interest in the methods during the interviews and outcome statements outside of the English Language Arts class, suggesting their enthusiasm for this method is not limited to one teacher or subject. Despite the obvious enjoyment I observed among students for this
method, the teacher mentioned that the students, in fact, were a little more subdued than usual because of the observer and the recording equipment. This may have prevented them from being even more goofy and sharing their creations. However, the results showed that students were engaged and that they created a variety of methods. Another limitation of this study was that I missed an opportunity to interview students who showed no interest in the EKWM. Not interviewing these students may have prevented me from getting important information that could have been helpful in improving the method to connect with more students.

Implication for Practice

Students learn differently based on their different intelligence; therefore, it is important that teachers introduce and train their students to learn through a variety of methods. The EKWM is an example of the use of multiple modalities within a single method to suit different intelligences. This research suggests that the EKWM helps students learn independently based on their strong intelligences. Teachers also should provide students with online resources to help them find the rhyming words especially since a lot of the participants in this study had difficulty with finding rhyming words. One great website is called Rhymer by Write Express and can be found at http://www.rhymer.com/ and Rhyme Zone at http://www.rhymezone.com/. In addition, instructors should provide their students with some pictures and colors to help them create their own KWM. One of the participants of this study suggested that it would have been helpful if the teacher had provided them with crayons saying, “I think for me since I like to draw and visualize the stuff, I think coloring would help, because it is just like kids and how they run to colors.”
Recommendation for Future research

In this exploratory case study I looked at the students’ ability to generalize the methods and their way of creating them for a variety of different contents and languages. The combination of the Dual Coding Theory and Multiple Intelligences Theory directed the EKWM, and thus it helped students to access learning and engage them in the learning. However, I did not look at the impact that the method had on student achievement in learning vocabulary. Therefore, future research should be conducted quantitatively to examine whether the method would assist students in retrieving vocabulary from memory and develop a tool to measure students’ learning. The study could be conducted using experimental design, where three random groups are involved. All groups would be provided with a pretest of their knowledge of a list of 40 to 50 new words. Then, ten words would be chosen to be taught. One group would be taught the list with the EKWM while the second group would be taught with the definition (traditional strategy), and the third group would have the chance to apply their own strategies. Then, all groups would be provided with a posttest of the same list to measure the recall of the words.

Replication of this study in the future should consider observing more than one teacher and two classrooms to understand different teachers’ and students’ ways of implementing and viewing the method to learn vocabulary. I should also interview students who show no interest in the method to be aware of the reasons and what could be done to improve the method to work better for all students.

Future studies should also look at whether students resort to applying a specific method with abstract versus concrete words to find out if concrete words may be easier to
learn through drawing and kinesthetic while abstract words are learned easier through poems or songs. In addition, future research should be conducted on different content areas and examine whether students would resort to implement a specific intelligence such as visual with a specific content such as food and nutrition. Further, future research should examine the effect of the EKWM on learning English for students who are enrolled in schools with different educational systems such as Saudi Arabia, which values individual work and depends heavily on reciting and memorizing information. This kind of system only benefits students who are strong in the verbal intelligence. Therefore, implementing the EKWM is more inclusive and so it relates to equity in education and develops students’ creativity, engagement, and critical thinking skills. Thus, it is worth examining the effect of this method on retrieving English vocabulary for students from S.A. In the next section of this concluding chapter, I briefly discuss the educational system in Saudi Arabia, my home country, and where I will likely teach and continue my research

**Saudi Arabia's Educational System**

The educational system in Saudi Arabia (SA) is based on the theory of behaviorism. K-12 students are usually taught by lecture and rote memorization, repetition, and are then tested. This way of teaching has little, if any, focus on developing critical thinking and problem solving skills (Morris, 2011). Similarly, at the college level, lectures are mainly situated in classrooms, with only a few online courses (Alebaickan & Troudi, 2010). However, a major reform program has been implemented which focuses on transforming teaching from a more traditional approach to an emphasis
on developing critical thinking and problem solving skills (Alghamdi, 2013). This educational reform movement is being lead by King Abdullah—a project called *tatweer* (progress), which focuses on the importance of students being engaged in multiple assessments. These assessments will require pre-service teachers to practice methods such as questioning, analyzing, and problem solving while working on their graduate degree programs (Alghamdi, 2013).

Based on my experience as a student and a teacher in SA, teaching in SA is usually centered on a textbook-based approach. Teachers have to follow a specific textbook and cover a large amount of curriculum that has been developed by a curriculum designer. Instructors have some opportunities to be creative in their teaching methods. As a future English teacher, I could have the chance to teach vocabulary using the EKWM. However, because of the burdensome curriculum, and because the EKWM is new for the students, it would require a lot of time and training in order to be used in the classroom. In vision of how the EKWM could work in the classroom, students would be exposed to the method and taught new words every day, during the beginning of the class, until they become more familiar with the method. While KWM is slowly being integrated into the classroom, the teacher would continue to use the traditional instructional methods for the remaining class time. In addition to this strategy, every word learned through the EKWM would be reinforced with a poster that remains present in the classroom. The added visual, poem and other creative work will encourage students to observe and review the vocabulary covered (Shapiro & Waters, 2005; Bernard, 2010). After several weeks, they will have the chance to produce a few words, in a cooperative fashion with the teacher, during the beginning of the class period. After
working with the instructor, they will be asked to practice producing their own KWM individually or in groups (McCarville, 1993). In addition, they will be asked to practice the EKWM for difficult words they choose from the new unit (Fontana, Scruggs, & Mastropieri, 2007), and turn those words in as an assignment.

Given that I am planning to hold a professor position in my home country SA, I will also work as a leader, which may require me to train my colleagues or pre-service teachers to benefit from the EKWM. Therefore, I can just use similar strategies that I used when I trained the teacher who implemented the method for this study. I will introduce the method and its effectiveness on developing vocabulary knowledge, motivation, engagement, creativity and critical thinking. After that, I will introduce them to the expanded keyword method and how it can be implemented. I will share some of the resources such as books and websites that have KWM examples, which can be helpful for them. In addition, I will share scenarios and examples from this dissertation which would show my future colleagues the extent of students’ ability and interest in creating their own strategy.
REFERENCES


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APPENDIX 1

TEMPLATE FOR CREATING THE EKWM IN CLASS.

Name/names:
Choose a word to learn.

Choose your favorite method and Follow the steps to create your own.

<table>
<thead>
<tr>
<th>To Draw a picture</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Write the new word.</td>
</tr>
<tr>
<td>2) Write the definition.</td>
</tr>
<tr>
<td>3) Find a rhyming word.</td>
</tr>
<tr>
<td>4) Think of relationship between the definition and the rhyming word.</td>
</tr>
<tr>
<td>5) Draw a picture of the relationship you imagined.</td>
</tr>
<tr>
<td>6) Turn it in to Ms. ------ or Ms. Shaman</td>
</tr>
<tr>
<td>7) Pick another word and work on it.</td>
</tr>
</tbody>
</table>
Name/names:

Choose a word to learn.

<table>
<thead>
<tr>
<th>To create a song</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Write the new word.</td>
</tr>
<tr>
<td>2) Write the definition.</td>
</tr>
<tr>
<td>3) Find a rhyming word.</td>
</tr>
<tr>
<td>4) Create relationship between the definition and the rhyming word.</td>
</tr>
<tr>
<td>5) Write a song using the rhyming word and the new word.</td>
</tr>
<tr>
<td>6) Record your song using the recorders on the table. (Ask Ms. ------ or Ms. Shaman for help).</td>
</tr>
<tr>
<td>7) Turn in the recorder to Ms. Shaman.</td>
</tr>
<tr>
<td>8) Pick another word and work on it.</td>
</tr>
</tbody>
</table>
Name/names:

Choose a word to learn.

<table>
<thead>
<tr>
<th>To use your body movement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Write the new word.</td>
</tr>
<tr>
<td>2) Write the definition.</td>
</tr>
<tr>
<td>3) Find a rhyming word.</td>
</tr>
<tr>
<td>4) Think of relationship between the definition and the rhyming word.</td>
</tr>
<tr>
<td>5) Act out the meaning of the new word using the rhyming word.</td>
</tr>
<tr>
<td>6) Ask Ms. ------ or Ms. Shaman to video record your act and say the word and explain your act.</td>
</tr>
<tr>
<td>7) Turn in the recorder and this page to Ms. Shaman.</td>
</tr>
<tr>
<td>8) Pick another word and work on it.</td>
</tr>
</tbody>
</table>
Name/names:

Choose a word to learn.

<table>
<thead>
<tr>
<th>To write a poem</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Write the new word.</td>
</tr>
<tr>
<td>2) Write the definition.</td>
</tr>
<tr>
<td>3) Find a rhyming word.</td>
</tr>
<tr>
<td>4) Write a poem using the rhyming word and the new word.</td>
</tr>
<tr>
<td>5) Turn it in to Ms. Shaman.</td>
</tr>
<tr>
<td>6) Pick another word and work on it.</td>
</tr>
</tbody>
</table>
APPENDIX 2

OUTCOME STATEMENT TO BE COMPLETED WITH HOMEWORK ASSIGNMENT

What words did you create the method for?

From what class/subject did you get these new words?

What was the topic you got the word from?

Please share your creation.

What was your experience with the method?
APPENDIX 3

INTERVIEW QUESTIONS

1) What are other strategies you use to help you remember vocabulary?

2) How is the new method Ms. ------ introduced to you compared to your strategies that you use to remember vocabulary?

3) How did you use this new method Ms. ------ introduced to you in learning new vocabulary? What were some difficulties you had? What kinds of materials would help you?

4) What did you like/dislike regarding the new method?