

# Using Visual Images in Teaching Vocabulary: A Practice Report

Mamoru Takahashi and Stephen Shucart

## Introduction

The purpose of this paper is to describe the implementation of visual images in Moodle-based CALL vocabulary quizzes (Hereafter MCVQ). MCVQ enable teachers to provide effective vocabulary exercises to enhance vocabulary learning in the CALL classroom. MCVQ are markedly different from traditional, text-based vocabulary quizzes in which students only view written words and sentences. Rather than having students match words with their definitions in the textbook, MCVQ focus on the relationship between words and pictorial images by providing image-word quizzes randomly and repeatedly. Like Moodle itself, MCVQ are based on the theory of Social-constructionism (Cole, 2005). If teachers encourage their students to use MCVQ with their classmates, they can create Vygotsky's "Zones of Proximal Development" for the weaker students. When students choose answers, they help each other, and they increase their vocabulary size through this activity.

Given that MCVQ help students learn vocabulary effectively, we decided to investigate how visual images contribute to the acquisition of vocabulary. In this paper, we will first examine the theoretical background. Then we will discuss some practical

advice to aid vocabulary memorization. Finally, we will document the specific MCVQ used by Akita Prefectural University by showing a sample from one of our MOODLE units.

## Theoretical Background

Experts in the field of vocabulary acquisition have identified the range of vocabulary that is necessary for ESL/EFL students' future use. Paul Nation, for example, wrote that the 2000 highest frequency words cover 87% of those used in any academic paper (Nation 239). Giving words to our students can be compared with feeding them fish. They can live for half a day if we give them a fish, but they cannot live forever on such a meager amount. If we teach them how to memorize words, that will be as if we are teaching them how to catch fish. They will be able to live for the rest of their lives.

In the field of direct vocabulary learning, numerous techniques exist and using imagery is one of the most effective methods. DCT (dual coding theory) is the background theory that most directly supports the effect of images on vocabulary acquisition. According to Allen Paivio:

Memory is served by the encoding of information in both a verbal and

nonverbal form. DCT assumes that the codes are independent and additive; therefore, information encoded both verbally and nonverbally should be remembered better than information encoded only in one way. (Paivio 63)

Even though verbal systems and nonverbal systems are functionally independent, they have a catalytic effect when recalling the target words, and together they synergistically engender better recall of vocabulary.

The purpose of this paper is not to show the effect of images in teaching vocabulary through empirical studies. If that were their goal, then readers of this paper would be better served by any of the countless articles that prove the effectiveness of images in learning. What we are presenting here is the fact that DCT is one of the theories that explains the effectiveness of non-verbal clues on memorizing words.

### **Practical Advice for Memorizing Words**

Even though countless studies support the effectiveness of using images, a need exists for practical advice on memorizing words. We can see an example of the Loci Method in Joshua Foer's popular TED Talk. The Loci Method or Journey Method, a memorization tool that has been used by humans for thousands of years, uses not only images but also our sense of location to aid memorization. In ancient Rome, when orators made speeches, they associated the topic words with familiar places.

In Latin, the word loci is the plural form of locus and it means location or place, so using the sense of location to aid memory is a trick used by people all over the world. Kenneth Higbee, who wrote *Your Memory*, says:

This finding that physical location can help recall also applies to memory for verbal material on a page. One study found a positive correlation between how well people remembered key words from prose and how well they remembered where the words were on the page. (Higbee 151)

Ed Cooke, a Grand Master of Memory and Joshua Foer's mentor in the Loci Method, explains his methodology in the book *Remember, Remember*. In that book, Cooke teaches us how to memorize the names of all the Kings and Queens of England, and all the Presidents of the United States. Ed Cooke explained how to memorize the names of the American Presidents as follows.

1. Here's the picture of a shark called Jaws. He's a friendly shark. Soap suds are behind him. He's washing himself tons. He's George Washington.
2. In the second picture, an apple is sitting on the toilet. Apple is associated with Adam and Eve. The apple on the john is John Adams.
3. They've arrived at the departures drop-off point. The huge train is Thomas the Tank Engine. The train is covered with Jaffa cakes. He's Thomas with Jaffas. Thomas Jefferson.

### **MCVQ - Honjo Campus CALL Lab**

The CALL lab is a required course for all first year students at the Honjo Campus. One of the most effective ways to utilize CALL is as part of a Blended Learning syllabus. The Honjo Campus employs the open-source, Virtual Learning Environment (VLE) known as Moodle, since it is both free

and highly customizable, thus it can be tailored to the individual needs of the students and teachers. Because of this it is highly superior to any off-the-shelf, expensive CALL software designed by a commercial company for their own profit and to pander to the lowest common denominator that quite often focuses on topics completely irrelevant and extraneous to the actual textbooks being employed in the classroom. Sometimes commercial software is ludicrously focused on preparation for a general English test, such as TOEIC or TOEFL, which has nothing to do with the actual course being taught, or the needs of the students. Unfortunately this apathetic practice is quite common among techno-phobic, older, language instructors throughout the world.

The first step that is used to aid vocabulary acquisition is to select the key words that appear in each unit. Some are taken from the key words selected by the textbook author and the rest are determined by the creator of the quizzes, based on experience and student feedback. Then these targeted words are worked into multiple activities in order to expose the students to them as many times as possible. Word Search and Crossword puzzle activities are merely text-based rather than visual, but they serve the purpose of raising the students' awareness of which terms are most important for them to understand the particular topic.

Moodle-based quizzes allow the students to work at their own pace and to choose the order which to take the quizzes. They can make as many tries as they like, as the computer shows infinite patience. This encouraged autonomous learning and increases motivation.

One of the image-based quizzes is entitled, creatively enough, Vocabulary Quiz A. In this activity the student must choose the best phrase from a drop-down menu that most

closely fits the visual image. See Figure 1 for an example:



Fig. 1. Vocabulary Quiz A, with drop-down menu.

Vocabulary Quiz B utilizes the exact same vocabulary words, but this time the students are presented a sentence using the word in context and they have to select the proper word from the drop-down menu. See Figure 2 for an example.



Fig. 2. Vocabulary Quiz B, with drop-down menu.

The Culture Quiz is more interactive, and employs Cubic QuickTime technology to present a 360° panorama for the student to explore. Then they must answer multiple-choice questions about the visuals. The questions or answers will need an

understanding of the target vocabulary in order for them to determine the correct answers. Figure 3 shows a static screen grab from the dynamic visual with which the students are presented.



Fig. 3. A screen grab of "The Minaret of Jam" in Central Afghanistan.

Figure 4 shows an example of the multiple-choice Culture Quiz.

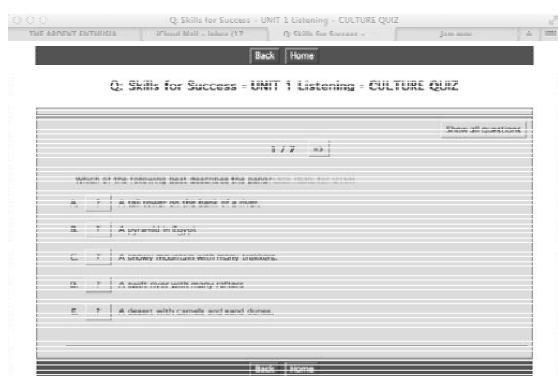


Fig. 4. Multiple-choice Culture Quiz.

### Conclusion

This paper first presented the theoretical background to the hypothesis that visual images will aid the acquisition process for key vocabulary terms. This was based on the Dual Coding Theory of Allen Paivio. We then showed how use of mental imagery to associate key words and phrases to easily remembered locations has been employed by public

speakers for thousands of year. After that examples of similar techniques employed by contemporary memory champions were presented. Finally, we showed concrete examples of how we employ visual images in the CALL lab's virtual learning environment to aid in the acquisition of key vocabulary necessary for understanding the actual texts employed in our Blended Learning classes. The main point that was conclusively illustrated by the paper was the fact that custom designed software based on the actual textbooks being taught and employing visual imagery can increase vocabulary acquisition speed and encourage learner autonomy.

### Works Cited

- Cole, Jason. *Using Moodle*. Cambridge: O'Reilly, 2005.
- Cooke, Ed. *Remember, Remember*. London: Viking, 2008.
- Foer, Joshua. "Feats of Memory Anyone Can Do." Online video clip. *ted.com*. TED, May. 2012. Web. 31 Oct. 2013.
- Higbee, Keneeth L. *Your Memory*. Cambridge: Da Capo, 2001.
- Nation, I.S.P. & Newton, J. Teaching Vocabulary. In J. Coady & T Huckin (Eds.) *Second Language Vocabulary Acquisition* (pp.238-254). Cambridge: Cambridge University Press, 1997.
- Sadowski, Mark. & Paivio, Allan. *Imagery and Text*. New York & London: Routledge, 2001.