Efficient Vocabulary Learning Through Online Activities

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Abstract

In the current teaching methodology, computer-assisted language instruction is considered to be an important tool that helps extend education beyond the classroom and facilitates both interactive and individualised learning. This paper is concerned with the use of on-line activities in teaching a foreign language vocabulary. Vocabulary learning includes complex processes such as the acquisition of words' pronunciations, meanings, as well as their stylistic, morphological and syntactic properties. This paper demonstrates how on-line activities not only help students to memorise new words but also motivate them to practice foreign language vocabulary. These activities allow students to choose exercises with different levels of difficulty and, therefore, adjust the material according to their needs. They also bring together various multimedia elements essential for vocabulary learning, such as sound, images and text.

1. Introduction

The purpose of this paper is to analyse the design rationale, development and implementation of picture-based online activities for second language (L2) vocabulary learning. The paper provides a short overview of research on the effectiveness of the use of pictorial glosses for language learning and discusses the types of pictures that can be employed as such glosses, as well as describes online activities for L2 vocabulary acquisition that implement visual images as learning tools.

The use of multimedia in second language learning, in particular the presentation of information in various formats (text, audio, graphics, animation, video), has become the subject of much debate amongst researchers and educators. Concerns often raised are whether learning foreign languages would be more effective when visual images are employed. Various studies have been undertaken to assess the impact of visual images on language learning (e.g. Carpenter & Olson, 2012; Chun & Plass, 1996b; Herron, Hanley & Cole, 1995; Hudson, 1982; Mueller, 1980; Omaggio, 1979; Webber, 1978; Yeh & Wang, 2003). Computer-assisted language learning literature mostly focuses on the impact of pictorial glossing on incidental (e.g. through massive reading or listening) second language vocabulary acquisition rather than on intentional vocabulary learning. Commonly held views are that visual images facilitate reading comprehension (Chun & Plass, 1996b; Herron, Hanley & Cole, 1995; Hudson, 1982;
Mueller, 1980; Omaggio, 1979) and that the presentation of foreign words with their pictures, in addition to native language translation, has a positive effect on vocabulary growth for language learners (Oxford & Crookall, 1990; Chun & Plus, 1996a; Kost, Foss & Lenzini, 1999). The explanation for this effect is that lexical terms coded with visual as well as verbal modes will be memorised and retrieved from the memory better than lexical terms coded with only one verbal mode (Chun & Plus, 1996a). There are also suggestions that pictures are easier to perceive than a native language translation, therefore, the use of pictures can facilitate accurate memory predictions (Carpenter & Olson, 2012) and images of familiar objects can facilitate the learning of language (Deno, 1968).

2. Requirements for pictures used in language learning

Pictures have a limited application range. For example, they can clearly illustrate the meaning of a word for a concrete object.

However, pictures may be confusing when they are used with abstract words. The questions arise: how beneficial are pictures of concrete objects for memorising abstract words? Can such pictures create unnecessary links and be potentially misleading? What kind of pictures for abstract words should be used to support their acquisition?

For example, Oxford and Crookall (1990, p. 17) argue that “even abstract words can be remembered through visual imagery; learners simply associate such words with a visual symbol or a picture of a concrete object. For instance, the abstract word *evil* can be remembered by a learner of English through an image or symbol, such as a bloody knife, associated with the word *evil*. The benefit of the picture of a bloody knife for learning the word *evil* is questionable. Further study should be undertaken to evaluate the impact of the use of pictorial information on learning words for abstract ideas. So far scholars have mostly studied the implementation of pictures as a mnemonic device. Since vocabulary learning includes the acquisition of meanings, morphological and syntactic properties of words, visual images can also be employed as explanatory tools.

According to research in cognitive linguistics, abstract ideas are metaphorically or metonymically conceptualised through more concrete ideas (Lakoff & Johnson, 1980). If a word with an abstract meaning needs to be presented through a picture of a concrete object, it should be a metaphorically or metonymically related object. In this case pictures will not only help to memorise a word but also to explain its use. For example, in Russian and English harming could be metaphorically conceptualised as lowering (University of California Berkley, 1994). Consider the English idioms to have a low opinion of, to bring low, or to put down. Pictures can illustrate the use of the preposition nad “lit. above” in expressions such as izdevat’ sjanad “to jeer at, to mock at” or smejet’ sjanad “to laugh at” (Figure 1).

![Figure 1: smejet’ sjanad “to laugh at”](image1)

![Figure 2: napochte “on the post office”](image2)

Pictures help to emphasise the connection between the new and old meanings of a word to illustrate the use of prepositions with it, for example, the use of the preposition na “on” with pochta “post-office”. The English *in the post-office* is translated into Russian as napochte, which is literary “on the post-office”. A reference to a time when mail was sent by a relay system of horses, carriages and riders will help to understand the archaic meaning of pochta “mail coaches” and explain the use of the preposition na “on” (Figure 2).

Pictures can also highlight the link between cognates (words that are related to each other by descent from a common source and are therefore similar in meaning and pronunciation). The common assumption is that words are
easier to learn if they share a similar meaning and pronunciation, e.g. Russian *park* - English *park*, Russian *banan* - English *banana* or Russian *garazh* - English *garage*. The more similar a L2 word is in its pronunciation and meaning to its L1 translation, the easier it is to learn (Anderson & Jordan, 1928). By relating prior knowledge to new information, learners can acquire this information easier and faster since related items that are mentally grouped together and associated with established knowledge structures can be stored more effectively in their memory (Kalyuga & Kalyuga, 2008). Since there are not many obvious cognates in Russian and English, in the online activities described in this paper, words’ native language translations are accompanied by “cue words”. For example, the English *quarters* “place of residence, dwelling place; rooms, barracks, lodgings, especially those allocated to soldiers, or to staff in domestic service” (OED, 2000) is used as a cue word to help to memorise the Russian *kvartira* “flat, apartment”, the English *lips* is used to help to learn the Russian *ulybat’sja* “to smile”, while the English word *spine* assists in memorising the Russian *spina* “back”. Additional pictorial information assists in linking these cognates.

3. Overview of the content, design and organization of the online activities

The online computer resources described in this paper were created for L2 vocabulary learning at the introductory level. These recourses use the common principle of matching foreign L2 words with familiar L1 words to help in memorising a foreign language vocabulary. They resemble a flashcard-learning pattern as newly added words circulate through the exercises. Flashcards are still considered as one of the most popular techniques used by students to memorise new foreign vocabulary (Oxford & Crookall, 1990). These online activities contain L2 (Russian) lexical items presented with their L1 (English) equivalents, as well as other multimedia elements essential for vocabulary learning, such as sound and images.

As mentioned before, apart from translation, textual glosses include material (e.g. cue words and explanations) that can help students link new information with already established knowledge. Students are also able to hear the pronunciation of the words outside the class, as it automatically links to a text-to-speech online service.

The on-line activities engage students by providing them with control over what they select to learn. For example, students can populate the glossary with new items. New words are then added to the glossary and are available for practice. It has been shown that when learners have control over the instructional material, they demonstrate a greater positive attitude (Morrison, Ross & Baldwin 1992), increased motivation, interest and better learning outcomes (Cordova & Lepper 1996; Druckman 1995; Ricci, Salas & Cannon-Bowers, 1996).

This arrangement can also save valuable time for teachers as students create their own practice material while collaborating and peer-reviewing each other’s entries. Such approach gives students many opportunities to practice using new vocabulary, whilst requiring minimal input from teaching staff, apart from proofreading and checking their students’ input. With this activity, we shift to a more dynamic and user-driven process that characterizes a game-like setting rather than a single-trial activity (such as completing a worksheet).

The students can also pick between different levels of difficulty and decide when they wish to advance to the next level. The program was designed to randomly select new words from the glossary and to mix them with the old ones. However, students can choose if they wish to practice new words or revise the old ones first and then progress at a later stage. In addition, students can choose between different types of exercises: L2 word to L1 verbal information, L2 word to image/picture and L2 word to audio/ pronunciation.

4. Conclusion

These new online activities were designed to bring together various multimedia elements essential for vocabulary learning, such as images, sound and texts, and to help students memorise meanings, pronunciation and grammatical properties of foreign words. We expect that these activities will enhance learning outcomes and improve the current practice resources for students. While they were initially developed for the Russian language, they are intended to be adapted to virtually every language taught at Macquarie University.
Apart from developing this new technology, research will be conducted to investigate the effectiveness of using pictures in L2 vocabulary acquisition not only as a mnemonic but also an explanatory device.

Acknowledgements

The project described in this study was supported by Teaching Delivery Grant 2012 from Macquarie University, Australia.

References


