Designing an Online Annotation System for Interactive Vocabulary Learning

Shiou-Wen Yeh,羅家駿,Ning-Wei Lee
Information Management
Computer Science and Informatics
jlo@chu.edu.tw

Abstract

Vocabulary learning and teaching has been one of the major challenges faced by second language (L2) teachers from different parts of the world. As Grabe (1991) explained, vocabulary knowledge develops in a highly interactive manner. It is a process of incremental learning and constant reinforcement. Additionally, it is not sufficient to know just one meaning of the word in a particular context; instead, the learner needs to know other aspects of the word such as its grammatical properties and alternative meanings in different contexts. Paribakht & Wesche (1996) further elaborated that vocabulary acquisition involves establishing relationships between the semantic concepts they represent and the communicative functions they can serve. Due to the increasing popularity of applying technology to facilitate L2 learning, more and more researchers start to explore the effectiveness of using online annotations on L2 learning. Online annotations may be comments, notes, explanations, or other types of external remarks that can be attached to a Web document or a selected part of the document. Moreover, online annotation is one of the applications of computer-mediated communications (CMC), which provides interpersonal communication and offers access to authentic language input (Lo et al., 2005). Previous research indicated that annotation is a useful tool to promote readers' reading comprehension and writing. Other studies (e.g., Hulstijn, 2001; Horst, 2005; Keating, 2008) showed that annotations attached to reading can increase new word acquisition as well. To meet the challenges of interactive vocabulary learning for EFL (English as a Foreign Language) learners, this paper presents the design and development of an online annotation system for English vocabulary learning (Vocabulary Annotator), and proposed that the combination of online tools, such as annotations, pop-up window, or dictionaries can be helpful learning interventions for English vocabulary acquisition. The system architecture

of Vocabulary Annotator is a client/server structure. The server end includes the annotation database. The client end includes input interface (document interface for teachers, annotation interface for students) and output interface (for both teachers and students). Two database modules are included in the system. Article Database stores the articles provided by the instructors for vocabulary learning. Annotation Database stores the related information of annotations, such as annotated words, annotation types. The annotation tools of Vocabulary Annotator includes: Annotated Words, Highlight, Dictionary, Notebook, Shared Notebook, etc. To make an annotation, the student first selects the text to which he/she wants to annotate. Then he/she clicks on one of the annotation tools to activate the corresponding function. Accordingly, any word in the text can be highlighted with different colors. Annotation Analyzer is also built to analyze the system log files collected by the embedded tracking system to examine the learning behavior and lexical behavior of the participants.

Keyword：online annotation, vocabulary learning, computer assisted language learning (CALL), reading instruction