Chapter XII
Designing a Constructivist Vocabulary Learning Material

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ABSTRACT
This chapter outlines how the constructivist approach can be implemented in Web-based vocabulary teaching, characteristics of effective Web-based vocabulary teaching materials, and a model for effective Web-based vocabulary teaching and recycling. In WEBVOCLE which stands for Web-Based Vocabulary Learning, contextual presentation of the words has been enriched with audible vocabulary and repeated with interactive exercises, games, and puzzles in ‘spaced revisions’ in a constructivist Web-supported environment. The content of the implementation has been additionally supported with pictures. Feedback obtained from the learners demonstrates that they not only developed a positive attitude toward English language learning, but also improved their learning outcomes.

INTRODUCTION
Current developments in information technologies with computers and the Internet have resulted in rapid advances in the application of technology in education. However, rather than focusing on the principles of human learning and use of technology (Internet), most current literature deals with differences on the achievement of learners between Web-based and conventional training so far. In order to shed light on learning theories and psychological facts, this chapter outlines: (a) how
Designing a Constructivist Vocabulary Learning Material

the constructivist approach can be implemented in Web-based vocabulary teaching, (b) characteristics of effective Web-based vocabulary teaching materials, and (c) a model for effective Web-based vocabulary teaching and recycling.

REVIEW OF LITERATURE

Computer-Based Language Instruction

The global popularity of the Internet over the past decade has brought about its innovation in education and in foreign language learning and teaching. Many studies affirm that learners consider the Internet a useful means to discover and learn new vocabulary (Alshwairkh & Sami, 2004; Johnson & Heffernan, 2006; Ma & Kelley, 2006) and to supplement in-class instruction (Kung & Chuo, 2002). Other research studies specific to vocabulary acquisition point out that words can be taught more effectively and in an enjoyable and even amusing way with the use of computers and Web-based materials (Labrie, 2000; Tsou, Wang, & Li, 2000; Tozcu & Coady, 2004).

When the use of technology in education emerged nearly thirty years ago, a major concern was that the unavoidable infusion of technological devices into our educational system would replace some of the educators, and that the computer would make the classroom obsolete. Throughout the years it has been experienced that the corresponding developments in technology and interactive processes lead to improved learning by enriching the teaching-learning process. In fact, computers and the Internet, defined by Rice as “the new media” (1984, as cited in Chou, 2003), has allowed or facilitated interactivity in educational applications which enhances learning potential. Regarding this, Borsook and Higginbotham (1991, as cited in Chou, 2003) claim that “the computer’s interactive potential makes it unique in the history of educational/instructional technology and sets it apart from all other instructional devices” (p. 267). Information and communication technologies (ICTs) have particularly changed the language learning environment and settings. It has transformed learning from a traditional, passive experience to one of discovery, exploration, and excitement by enhancing learners’ critical thinking, problem-solving, and communication skills (Young, 2003).

Recent research studies demonstrate that language teaching, in order to be effective, requires a high level of interactivity. The growth in the use of multimedia computer as a learning tool has brought new opportunities to the design and implementation of foreign language learning activities. Multimedia has the power to move the lesson beyond the traditional walls of the classroom, to provide flexibility in individualizing the activities, to integrate the lesson with the needed authenticity, to enhance communication and discovery-oriented learning by the help of cooperative work in groups, to involve language learners in the learning process by their senses, to reduce or eliminate learners’ initial linguistic and psychological barriers, and to create an effective and interactive learning environment (Foster, 1996; Young, 2003; Yang, 1998; Adair-Hauck, Willingham-McLain, & Youngs, 1999; Plass et al., 1998). In addition, Pusack and Otto (1997) claim that the strength of multimedia comes from the synergy provided by the variety of skills (listening, reading, writing, and speaking) that are linked together in meaningful ways to deliver in-depth experience. Multimedia learning provides the learner with information on different (e.g., visual, auditory) modes.

Main Characteristics of Constructivist Learning

As presented by Fosnot (1992), constructivism is “a theory of ‘knowing’ and a theory about ‘coming to know’” (p. 168). Therefore, a constructivist approach to instruction requires an understanding