Chapter 6
CALL Course Design for Second Language Learning: A Case Study of Arab EFL Learners

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ABSTRACT
The study presented in this chapter investigated the impact of computers and the Internet on both the achievement of learners of English as a foreign language (EFL) and their attitudes toward learning EFL. The field study took place at a University in Riyadh, Saudi Arabia, where first year students study English 101, a compulsory English language course. Thirty students were randomly selected to study in an alternative EFL course using computers, the Internet and collaborative activities within a constructivist framework. Another group of 38 students was also randomly selected to be the control group. These students attended English 101 taught using traditional teaching aids and the grammar-translation teaching method. The study was 13 weeks long. The findings of the study indicate a strong positive shift in the subjects’ attitude and motivation toward learning EFL after using the new technology-based approach. As to the subjects’ language achievement, the treatment group outperformed the control group by 30%. These findings provide strong support for the effectiveness of a technology-enhanced learning environment for second language teaching and learning.

INTRODUCTION
In recent years, the question of what it means to know and learn and its implications on how we should teach have inspired various academic disciplines, e.g. mathematics, science, and language teaching, to undergo a significant change in the epistemology which underlies their pedagogical practice (Reagan, 1999). In order to address the limitations of the commonly practised teacher-based instructional pedagogy, scholars turned to constructivism as a
theory of learning that gives more attention to the learner, as learners become active and engaged in the learning process (Schcolnik, Kol, & Abarbanel, 2006). Among the core principles of constructivism is the rejection of the behaviorist model of learning, e.g. the teacher-centered approach, which is the linear transmission of knowledge from teacher to student with the student in a passive role. Instead, constructivism focuses on the learners as active participants in constructing their own knowledge. According to constructivists, learners construct their knowledge with the help of the teacher by means of various types of interaction, including interaction with their learning environment (Fosnot, 1996; Gagnon & Collay, 2001; Meunier, 1994). Students’ active participation in creating learning materials has been associated with higher levels of achievement, as shown in early and more recent research (see for example Clarke, 2007; Hunter & Harman, 1985). It is important, however, that the tasks are challenging, authentic, and multidisciplinary in order for the learners to be engaged (Wang & Kang, 2005). Such tasks are often collaboratively performed by the students and their peers. Therefore, in addition to active learning, constructivism is also associated with collaborative and project-based learning as essential and integral components of the learning process (Herrington, Reeves, Oliver, & Woo, 2004; Neo, Neo, & Xiao-Lian, 2007). Unlike the traditional teacher-centered classroom, where each student works alone and is assessed individually, in the constructivist classroom students engage in the investigation of real life problems (Barron, 1998) and create meaningful collaborative learning projects. Although the study of collaborative learning has a relatively brief history (Littleton & Hakkinen, 1999), there are empirical studies that have shown positive results when investigating group work (see Meunier, 1994). In the language learning classroom, when the learners are actively engaged with other learners to express meaning this can promote the language skills needed for effective communication in the target language (Chen, 2005; Rust, Price, & O’Donovan, 2003). Seliger (1983) found that the learning rate among students who were interacting with their peers was faster than the students who were passively receiving their knowledge from the lecturer. Pica and Doughty (1985) also observed that ESL students showed more expertise in negotiating meaning when working in groups rather than through the teacher-centered model. Similarly, Green (1993) found that students who work together showed a higher degree of achievement and better attitude toward the language they were learning.

Equally important, though, in a constructivist learning environment are the resources and tools used in teaching and learning. The use of computers and the Internet has long been advocated by educators who seek to apply a learner-centered constructivist model through the use of technology (Newhouse, 2001). In a computer-supported environment where time and space are no longer constraints to learning, students can work collaboratively on projects either synchronously or asynchronously, whether in the classroom, at home, or anywhere else as long as they have access to the Internet (Roberts, 2005). Furthermore, as the Net-generation grows up in a world dominated by digital devices, electronic communications, constant multimedia exposure, and the Internet, the expectation is that these tools and resources would be employed in teaching and learning as well. With the advent of multimedia, and new technologies, teachers could enable their students to learn in more productive ways (Zheng & Zhou, 2006). This is particularly important when it is revealed that people remember 75% better when they receive information through audiovisual media than through hearing or seeing separately (see Lindstrom, 1994). Other researchers (see Fulford, 2001; Mayer & Moreno, 2003; Zheng & Zhou, 2006) have also suggested that computer technology and multimedia in particular can enhance different aspects of learning including motivating students to learn, promoting deep understanding, and engaging them in problem