

## Chapter 10

# The Role of Technology in Audio Text Comprehension for English as a Second Language

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### ABSTRACT

*This chapter proposes to establish a starting point in the design of technology specialized in the development of listening comprehension skills from a theoretical perspective, when learning English as a second language. Therefore, an exploration about how technologies have evolved in the practice of learning English as a second language was required. Likewise, authors look at fundamental aspects of technology literacy and how this is rooted in users' contexts. From this, they conceptualize the symbolic competence through the ecological theory in order to design a computer-assisted language learning practice. Findings led to the conclusion that a guide on how to build specialized technology in English learning as a second language does not exist. What indeed exists is the application of recycled technology created for other purposes but used for English learning. Authors propose a practice where the meaning is explored through the understanding of what happens in the context by using 3D holograms as an optical illusion.*

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## **INTRODUCTION**

The research connected to the acquisition of English as a second language is a key component, due to the social and economic implications that lead to the proficiency of this language (Calderon, 2015). Therefore, a variety of learning theoretical approaches have emerged, which mainly focus on how the student builds knowledge (Buck, 2001; Flowerdew & Miller, 2005; Brown, 2006; Richards, 2008; Nation, & Newton, 2009; Abdelhamid, 2012). Proficiency of this language acts in response to a multifactorial structure that is determined by the experiences, knowledge, and the context in which the student is currently immersed in. (Lambert, & Wolfgang, 1973; Levy, 1997; Lam, 2000; Egbert, Paulus, & Nakamichi, 2002; Richards & Renandya, 2002; Kormos, & Csizér, 2008).

A variety of supporting tools are utilized in the learning process of this language. From audios/stereo, to virtual reality applications. (Slattery, & Willis, 2001; Dunleavy, Dede, & Mitchell, 2009; Liu, & Chu, 2010; Liu, & Tsai, 2013; Merchant, Goetz, Cifuentes, Keeney-Kennicutt, & Davis, 2014). However, the search to improve any approach that relates to the aforementioned learning process continues. Unfortunately, while in the field, we tend to assume that the user is the one who needs to adapt to the applied technology, and not the other way around (Norman, 2013)

Creating change in the cognitive process of a student to stimulate or boost the improvement of a certain skill, is more related to the type and quality of the interaction with the technology than the actual tool per se. (Ybarra, & Green, 2003.) In this sense, the success in the use of technology depends of a process which involves the design of a practice that is sustained in a theoretical way, built from a socio-cultural perspective where it must involve the knowledge regarding to the user, and its own context. For that reason, this research aims to provide answers to the following questions: What kind of frameworks are currently available in the construction of technology when learning English as a second language? And more specifically, how to design technology as a support tool that allows listening comprehension of texts in English as a foreign language?

## **THE EVOLUTION OF TECHNOLOGIES IN THE ENGLISH LEARNING PROCESS AS A SECOND LANGUAGE**

The learning process through the use of technologies is directly influenced by the industry that develops hardware and software (Warschauer, 1996). Thus, the type of teaching materials that are created, are mainly a consequence of the physical and processing abilities of modern technology. Therefore, due to the advent of personal computers and color monitors, the development of teaching materials in the language learning process was made possible.

Warschauer & Healey (1998) describe in three stages (CALL) the assistance computers provide in the learning process of languages. The first stage, where they integrated computer tools with language learning strategies, consisted in making possible the filling of blank spaces during the reconstruction of ideas within a text. The issue with this stage, was that there was a lack of contextualization between what the student needed to fill out the empty space, and what the computer was capable of providing. This enabled a feedback that only included “correct” or “incorrect” (Bax, 2003).

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