Chapter 3.9
Cultural Variables and Instructional Engineering

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ABSTRACT

This chapter discusses how cultural variables can be taken into account when designing computer-based learning environments (CLEs). Its purpose is to identify concrete recommendations to guide instructional engineering of computer-based learning for diverse cultures through a review of the literature on the subject. First, this chapter describes the background in which such recommendations have emerged, and identifies some of the issues underlying instructional design for diverse cultures. Then it introduces models and guidelines on how cultural variables can be taken into account when designing CLEs. Specific recommendations are organized using a method of instructional engineering for CLEs called MISA (Paquette, 2003) as a frame of reference. This is followed by a discussion on future trends and future research directions.

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INTRODUCTION

Corporate providers and educational institutions are competing in the global education and training services market. Computer-based learning environments (CLEs) are becoming a commodity marketed across nations and cultures. Educators at all educational levels and training professionals who design these systems face the challenge of meeting the needs of culturally diverse learners. More than ever, they need sound methodologies and guidelines for developing CLEs that address

cultural diversity issues and meet learners' requirements.

The goal of this chapter is to report recommendations to guide instructional engineering for diverse cultures, which are suggested by diverse authors in the field of educational technology. The frame of reference used to synthesize and organize these recommendations is based on a method of instructional engineering for CLEs called *MISA*[1] (Paquette, 2003).

This chapter is divided into four sections, followed by a conclusion. In the first section, we describe the methodology used to search and select the documents reviewed. We also examine the context in which the culturally sensitive instructional design recommendations are emerging and identify some underlying issues. In the second section, we introduce some models and guidelines intended to assist the instructional designer in addressing cultural variables. Then, we use the six phases and the four axis of MISA as a framework to report specific instructional design recommendations found in the literature. The third section identifies future trends that may influence the instructional design of culturally sensitive CLEs. The fourth section identifies future research directions. In conclusion, we synthesize recommendation highlights.

BACKGROUND

Scope and Limitations

This literature review focuses on documents published over the last decade, and comprises theoretical essays, research papers, case studies, promotional materials originating from both corporate and institutional education providers, and so forth. We searched on Web engines such as Copernic and Google, as well as educational literature databases (e.g., ERIC) and specialized bibliographical databases available through university libraries. Our search descriptors included French and English keywords such as culture, learning, instructional design, and so forth.

About 300 documents identified during that initial step were reviewed, and helped focus the research on specific researchers, organizations, and conferences. Helpful resources included sites such as:

- Institute of Educational Technology (IET) at Open University
- Australasian Society for Computers in Learning in Tertiary Education
- Center for Enhancing Learning and Teaching at Charles Sturt University
- Department of Educational Technologies at Twente University

The following criteria were used to select about 60 documents for detailed analysis: (a) the document attempts to answer the question of how cultural variables can guide the instructional engineering of computer-based learning, (b) the author or organization is recognized in the field, (c) the document focuses on adult education issues, (d) the document provides a variety of perspectives and viewpoints.

Computer-based learning is defined here very broadly, as any electronically mediated learning, either Web-based or not, and distant or not. Collis and Remmers (in McLoughlin & Oliver, 2000) define two categories of Web sites that have cross-cultural implications: (1) sites designed to address one context and culture, but visited by other cultures; and (2) sites designed specifically for cross-cultural participation. We suggest that CLEs can be classified similarly, and both categories have been considered in our review.

So far, very little has been written about emerging models or guidelines to address cultural diversity in instructional design. Even fewer attempts have been made to organize recommendations within a specific framework or method.