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## Chapter XVI

# Ensuring Usability in International Web-Based E-Learning Systems

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### ABSTRACT

*E-learning systems cross national borders, are used by people in different cultures, and are applied in culturally different contexts. A number of factors highlight the need to be acutely aware of the role of culture as part of the whole e-learning environment. In mainstream systems development, effective strategies that address cultural issues in both the product and the process of development now often are critical to systems success. In relation to the product of development, cultural differences in signs, meanings, actions, conventions, norms or values, etc., raise new research issues ranging from technical usability to methodological and ethical issues of culture in information systems. In relation to the process of development, cultural differences affect the manner in which users are able to participate in design and to act as subjects in evaluation studies. This chapter provides a summary of the main issues within cross-cultural usability with an emphasis on web-based systems. It discusses the application of generic models and theories to the field of e-learning systems and provides an agenda for future research required to ensure usability in international web-based e-learning systems.*

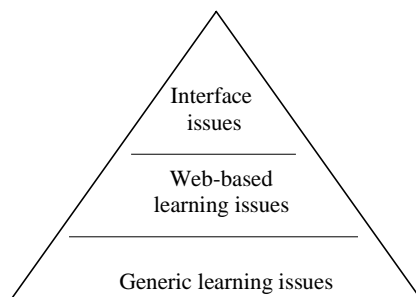
## INTERNATIONAL USABLE E-LEARNING SYSTEMS

Web-based systems are now an established channel of communication between a whole variety of organisations and their diverse groups of stakeholders. The Internet makes a global client base accessible to even the smallest organisation. The opportunities for global competitive advantage are considerable. Based on a variety of sources, NUA Internet surveys (NUA, 2002a) estimated that in December 2002 there were 605 million Internet users globally, with the three main regions being North America (183 million), Europe (191 million), and Asia/Pacific (187 million). Whilst projections for the future vary greatly, the Internet offers massive potential in a wide range of fields.

In the domain of e-learning, the emergence of the global information society has led many educational providers in both the public and private sectors to offer their services to a global market. According to the European Centre for the Development of Vocational Training (CEDEFOP) e-learning has the potential to change education and training radically, open new ways of learning and increase the ability of people to acquire new skills (Cedefop, 2002a). This is perhaps most noticeable in the Higher Education sector where many universities now offer open and distance learning programmes to a global student base. E-learning is set to show considerable growth in the coming years. The European e-learning market is predicted to be worth nearly 6 billion U.S. dollars by 2005 (NUA, 2002b), representing a quarter of the European IT training market. In the U.S., 90% of U.S. colleges and universities are predicted to offer some level of e-learning by 2005 (NUA, 2002c).

However, in terms of user perceptions, there is evidence that much needs to be done to improve the quality of e-learning systems. In a recent survey almost two thirds of Europeans rated e-learning as either “fair” or “poor,” only one-third as “good,” with only one percent “excellent” (Cedefop, 2002b). Ease of use is a key factor in encouraging learners to adopt e-learning styles. Enhancing the usability of e-learning systems includes addressing many traditional aspects of usability and human-computer interaction (HCI) (Smith, 1997). However the success of international e-learning systems is affected by a further range of issues, which relate to cultural differences inherent in the users of such systems. Figure 1 proposes a simple model of how cultural differences may affect the success of international web-based e-learning systems.

*Figure 1: Factors Affecting Learning Within Cross-Cultural Web-Based E-Learning Systems*



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