Chapter 2.39
Curriculum Development in Web-Based Education

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INTRODUCTION

A paradigm shift has taken place in the last decade, with a move from traditional to Web-based education at different educational levels (Harasim, 2000; Karuppan, 2001; Kilby, 2001). Web-based education (WBE) has moved on from the delivery of educational content to Web-based sites with interactive functions (Carty & Philip, 2001). Concurrently, new innovative kinds of pedagogical experiments have shifted the paradigm from teaching to learning (Pahl, 2003). As summarised by Armstrong (2001), what educators have in fact realised is that a good Web-based education theory and good education theory are one and the same; the only difference is that WBE transcends the barriers of space and time. The paradigmatic shift has occurred as part of planned educational policy, while at the same time good international or national experiences have also supported the growth of WBE. In addition, there have been attempts to have more coherent and cohesive educational systems and degrees especially in the European context (The Bologna Declaration, 1999.)

The aim of this chapter is to pursue the discussion of some essential issues and promoting factors facing Web-based curriculum development (Figure 1). At the beginning, the main concerns in curriculum development are quite often related to students, new technology and pedagogical issues. However, the curriculum development is a process due to constantly evolving information technology and changes in course contents. The second part of this chapter focuses on this. Additionally, curriculum development does not happen in a vacuum. Therefore, quality, ethics and management are briefly summarized as important contextual concerns in WBE curriculum development.

BACKGROUND

Curriculum Development in Web-Based Education

Basic questions at the first phase of the WBE curriculum development have been summarized in this review into three overall themes: 1) stu-

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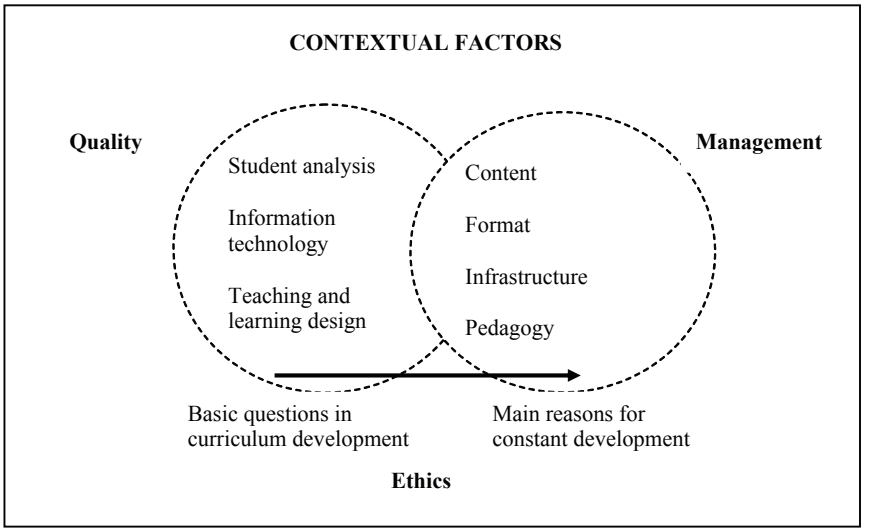
Figure 1. Curriculum development as a continuous process



dent analysis; (2) information technology; and (3) teaching and learning design (adapted from Alexander, 2001).

Student Analysis

One crucial component in curriculum development is the identification of potential users, and analysis of their needs (Karuppan, 2001; Lammintakanen & Rissanen, 2003). Variables such as age, gender, being employed or unemployed are premised as having an effect on computer use (Karuppan, 2001; compare to Lu, Yu, & Liu, 2003). Furthermore, learning materials should support the student's particular learning style in order to facilitate learning (Karuppan, 2001). At best, Web-based education encourages the student to take control over his or her own learning. In turn, curriculum development should support this by promoting a completely new way of thinking in students: from what they hope to acquire from the course to what they themselves contribute to the creation of knowledge (McFadzean & McKenzie, 2001).

Although Web-based learning is said to be a flexible way of learning in terms of availability (anywhere and anytime), it is crucial to take into consideration the place from where the students participate, for example, the home or work place, and also the kind of skills that they have.

The following reasons have been recognized as major obstacles in students' use of information and communication technology (ICT): 1) a lack of student workstations; 2) students' lack of time; 3) students' ICT skills; 4) course overlap; 5) insufficient course hours; and 6) teachers' lack of time (Sinko & Lehtinen, 1999). Careful consideration of these aspects provides an idea of what kinds of learner support systems are needed from the educational institution (e.g., tutoring, technical support; Lammintakanen & Rissanen, 2003). In sum, support from the educational organization and other students, as well as the individual's experience of technology have a major influence on the student's learning experiences (Alexander, 2001).

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