Scenarios for Web-Enhanced Learning

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INTRODUCTION

After several years of Internet use in traditional universities, some patterns have emerged, both in the nature of use, and in understanding the conditions associated with successful adoption and application of Web-enhanced learning (WEL). This article summarizes, in the form of nine scenarios, the ways in which the Internet is being used to enhance learning in traditional universities. It also discusses the changes needed if universities are to benefit more widely from WEL.

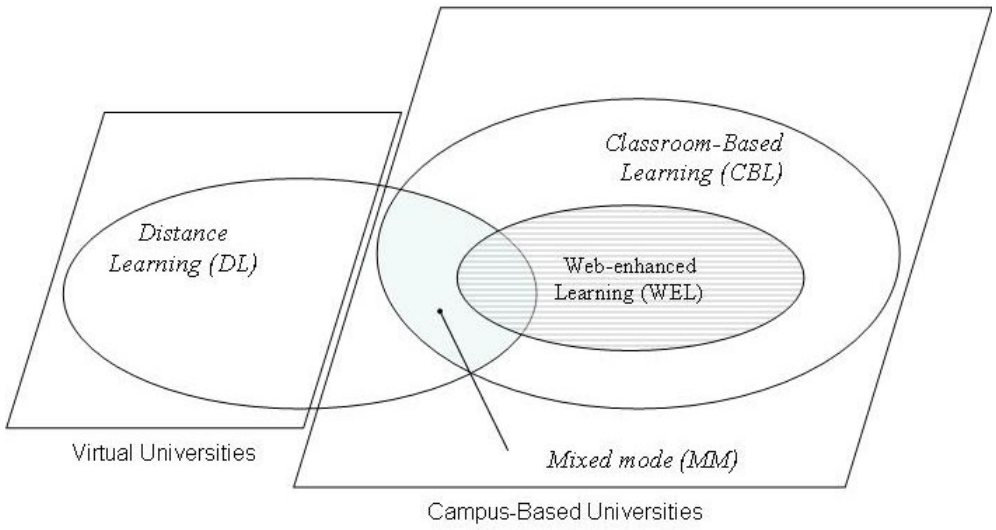
BACKGROUND

The World Wide Web is used by universities to make courses available to students who are distant from campus (*distance learning*, DL) and to enhance learning by students who attend courses on campus (*Web-enhanced learning*, WEL). Universities may be classified on the basis of the modes of learning that they offer. *Virtual universities* offer access to courses by DL only. Traditional, or *campus-based universities*, offer courses that are based on formal lessons held in classrooms or laboratories (*classroom-based learning*, CBL), but may also offer courses by DL or *flexible learning* (FL), which is a combination of DL and CBL.

WEL is the use of the Web to enhance CBL in traditional universities. WEL provides students studying in the classroom with access to electronic resources and learning activities that would not be available to them in traditional classroom-based study. Simple forms of WEL provide access to the Web from within the classroom, using the Web as a platform for real-time demonstration or as a digital library. More sophisticated forms of WEL blend activities in the classroom with Web-enabled learning activities that promote collaborative learning among students, even when they are distant from the classroom.

Figure 1 illustrates the relationship between the modes of learning offered by universities. WEL is represented as that portion of CBL that uses the Web to enhance learning. When it is used to blend in-classroom and out-of-

Figure 1. Relationship between Web-enhanced learning (WEL) and other modes



classroom activities, WEL shares the characteristics of DL and FL.

WEL differs from flexible learning in that the focus of the lesson remains the traditional classroom. With FL, classroom-based learning is mixed with learning at a distance. In the most common form of FL, *distributed learning* (also known as *blended learning* or *mixed mode learning*), students participate in formal lessons both in the classroom and at a distance, according to a schedule prepared by the instructor. Some flexible learning may be enhanced by use of the Web, for example, to provide discussion forums in which students studying at a distance and in the classroom may participate together, but use of the Web is not necessary for flexible learning.

This article is concerned with integration of online learning and classroom-based learning to achieve effective and manageable WEL for campus-based students. The focus is on change across a university system rather than in an individual classroom. We argue that WEL adds most value when it is used to enable new forms of learning, and in particular, online collaborative learning by students working at a distance from the classroom, as well as within it (Rudestam & Schoenholtz-Read, 2002). This value can only be obtained through attention at the institutional level to the organizational transformation required to implement, support, and sustain WEL (Bates, 2000).

WEL SCENARIOS

Nine distinct scenarios for use of WEL can be identified (Table 1, based on Klobas & Renzi, 2003). They can be divided into four groups: *information provision* scenarios, in which the Web is used to provide information to students and others outside the classroom; *classroom*

Table 1. A hierarchy of WEL use scenarios

Scenario	Label	Use
INFORMATION PROVISION SCENARIOS		
1	Catalog	Provision of static, and primarily logistic, information about the course.
2	Notice Board	Distribution of course materials in electronic form.
3	Class Resource	Provision of additional materials and references in response to student and teacher experience in the course as it progresses.
CLASSROOM RESOURCE SCENARIOS		
4	Classroom Resource	Use of the Web for demonstration or as a digital library during classroom sessions.
5	Streaming Video	Broadcast of classroom sessions.
INTERACTIVE LEARNING SCENARIOS		
6	Virtual Classroom	Synchronous interactive classroom sessions that include video and voice communication among instructors and students.
7	Interactive Web	An interactive environment outside the classroom.
8	CSCL	Computer-Supported Collaborative Learning.
EXPERIMENTAL SCENARIO		
9	Experimental	An experimental environment for innovative use of the Web.