Chapter 5
New Challenges in Web-Based Education

Quynh Lê
University of Tasmania, Australia

Mark Lê
Latrobe University, Australia

ABSTRACT
The Web has become popular in education as it is an essential foundation for e-learning. It provides powerful resources for social interaction, teaching, learning and research. This chapter examines the various roles that the Web can contribute to teaching and learning and the impacts it has on shaping the conceptual as well as practical changes in education. Finally it discusses the challenges facing teachers in making the Web learner-friendly and culturally accommodating.

INTRODUCTION
The Web has been seen as an information super-highway connecting many parts of the world. The word ‘superhighway’ is not strong enough to designate the travelling speed and the power of the Web in our global village. For those Web-enthusiasts whose entire work depends on the use of the Web, the Web is their world of existence. Their virtual reality has become their ‘real world’. This has not been the situation of many educators as their real world of teaching and learning is still in a face-to-face context. However, tertiary education has opened its door to the Web, not totally committed, but with a great deal of educational investment, intellectual interest, enthusiasm, and reservation. This chapter examines the significance of Web-based education, particularly its contribution as well as challenges to education.
THE WEB AS A POWERFUL RESOURCE FOR TEACHING AND LEARNING

Undoubtedly, the Web is powerful in many aspects. In education, the Web has been used to facilitate teaching and learning in various subjects across the curriculum. It provides the following resourceful motivations for learning.

The Web as a Powerful Data Bank of Information and Knowledge for Teaching and Learning

As a powerful resource, the Web is important for promoting independent learning. Reading materials include scanned articles from books and various forms of e-book. Search tools of various Web sites dealing with specific issues or topics provide learners with facilities beyond the traditional use of a library.

The Web can provide information in an interactive way, not as a linear process, so that learners can learn to build up their own knowledge. Knowledge includes not only information, but also most importantly how people make sense of it. The Web is a good tool for teaching and learning and there are things students could learn from Web-based teaching that they could not learn from face-to-face teaching. However, Web-based teaching cannot replace face-to-face teaching as each has its advantages and disadvantages depending on the specific educational contexts.

The Web as a Powerful Forum for Interaction

Interactivity can be categorized into three types:

- **Textual interactivity:** There are various texts within the domain of a program or in the world for learners to explore and make connection. This is represented by the interactive markers generally known as ‘hot spots’ which provide pathways to various issues, aspects, or points in different locations. In addition, there are also hotspots for learners to contact the outside world, such as interesting links to organizations, conferences, journals, clubs, associations, etc.

- **Media interactivity:** The word ‘multimedia’ means the combination of many media in software production. This includes three primary sources: sound, graphic, and speech. Graphics, for instance, make use of visual dimensions, animation, color creation, shape, size, layers, photo, etc. This makes the virtual world closer to the real world.

- **Communicative interactivity:** In an interactive education model, learners may wish to discuss and debate various topics and issues with both fellow students and tutors. This is a meaning-making process which is most important in an interactive discourse of learning. In order to meet this requirement within an electronic learning environment, it is necessary to provide a range of interactive communication tools to support both individual and group communication processes.

Fundamentally, learning is an interactive process in which learners share information, ideas, and opinions with others. Due to the power of the Web, the world is no longer at the mercy of time and distance. Learners can participate in a learner community even if they are in different time zones. Web-based interaction can be achieved via many platforms and modes. For example, email is a very popular mode of interaction in telecommunication and Web-based discussion boards are becoming increasingly popular in off-campus as well as on-campus courses. They create a different psychological engagement on the part of the participants which may not be found in face-to-face classroom communication.
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