Chapter 2
Understanding Web 2.0 and its Implications for E-Learning

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ABSTRACT
A whole new range of web-based tools and services now provides learners with the opportunity to create their own digital learning materials, personal learning environments, and social networks. What are the implications for the design of learning materials, workplace training, and accreditation of learners? This chapter focuses on integrating educational principles of virtual learning with the application of these new technologies. The argument is made that these tools provide an opportunity for new design models for education and training that will better prepare citizens and workers for a knowledge-based society. It rejects, though, the notion that these tools of themselves will revolutionize education and make formal institutions redundant.

INTRODUCTION
A whole new range of web-based tools and services, including but not limited to blogs, e-portfolios, virtual worlds, massively multiplayer online games (MMOGs), Really Simple Syndication (RSS), podcasting, and synchronous tools such as Skype and Elluminate, now provides learners with the opportunity to create their own digital learning materials, personal learning environments, and social networks. Some, such as Stephen Downes (2006), have argued that with these new tools,

Learning is centered around the interests of the learner ... Learning is immersive—learning by doing—and takes place not in a school but in an appropriate environment (such as a living arts centre). (Slide 27)

Downes argues that so far, the mainstream education system has either tried to ban these tools outright, or has tried to do what traditional educators have always done with technology,
Understanding Web 2.0 and its Implications for E-Learning

namely incorporate them into a classroom-based environment.

Although agreeing in many ways with Downes’ position and arguments, this chapter recognizes the diversity of approaches to teaching and learning, and therefore offers an approach to the use of Web 2.0 tools that focuses on choice for both teachers and learners. The argument is made that these tools could facilitate new models of design for education and training that will better prepare citizens and workers for a knowledge-based society. The chapter rejects, however, the notion that the tools of themselves will revolutionize education and make formal institutions redundant, because many learners require structure and guidance. Furthermore, whatever organizational arrangements are made (or not made) to support learning, these new technologies need to be integrated with a variety of educational approaches if all learners are to be accommodated.

The term “Web 2.0” was coined by Tim O’Reilly in 2004. Wikipedia defines Web 2.0 as follows:

the changing trends in the use of World Wide Web technology and web design that aim to enhance creativity, communications, secure information sharing, collaboration and functionality of the web. Web 2.0 concepts have led to the development and evolution of web culture communities and hosted services, such as social-networking sites, video sharing sites, wikis, blogs, and folksonomies. (“Web 2.0,” 2008, para. 1)

Web 2.0 is a neat term, reflecting a new version of the Web in the language of computer science. However, although the term describes new technologies that have emerged over the last few years, “Web 2.0” reflects as much a social as a technological development. At the same time, Web 2.0 has been given an educational twist, through the parallel term “E-learning 2.0” (Downes, 2005), which involves e-learning based on Web 2.0 tools. Therefore in this chapter, while addressing some of the social philosophy implicit in many discussions of Web 2.0, the focus is primarily on the educational functionality and implications of these new tools, and an attempt is made to situate them not only in a socio-philosophical context, but also in the context of economic development, and educational theory and practice.

While the terms “Web 2.0” and “E-learning 2.0” suggest a clean break from earlier applications of the Web, in education the differences, although significant, are due more to a gradual development and evolution of tools and teaching practice than a sudden “big bang.” Indeed, there is cause for concern that the term “Web 2.0” has been hijacked to describe one particular application of second-generation web tools, while excluding other new web tools equally of value to education. Thus some understanding of the history of the application of information and communications technologies (ICTs) in education is important in order to provide the necessary context for understanding Web 2.0 in education.

E-LEARNING 1.01–1.02 (1978–2005)

One of the first recorded uses of the Internet for teaching is the use of computer-mediated communication systems (CMCS) at the New Jersey Institute of Technology in the 1970s (Hiltz & Turoff, 1978; Hiltz, 1986). This was a “blended” learning model, combining classroom teaching with online discussion between students and teacher. A variety of software programs to support computer-mediated communication (CMC) were developed in the 1980s. One of the most used at this time was CoSy, developed by the University of Guelph in Canada. An important feature of CoSy was that it enabled threaded discussion, that is, postings were linked directly to a specific previous posting to which the student or teacher was replying, rather than just being listed by the timing of the posting. In 1988, the author of the present chapter used CoSy as an instructor on DT200: An Introduction to Information Technology, a
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