

# Chapter 51

## Leveraging Web 2.0 for Online Learning

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### ABSTRACT

*The emergence of the Internet and Web 2.0 has introduced enormous opportunities for a rising generation of tech-savvy young adults, students, and life-long learners. This chapter examines the various Web 2.0 tools, such as blogs, wikis, RSS (Real Simple Syndication), podcasts, mashups, and social networks, that can help make the online learning environment more interactive and interesting. The chapter provides an overview on the role of Web 2.0-based tools and technologies in providing a comprehensive structure for interactions and interconnections between three key components of a learning environment: the learner, the teacher, and the interface. Furthermore, the chapter explores how these tools can be used in exchanging knowledge, aggregating content, and collaborating with peers in online learning environments.*

### INTRODUCTION

The emergence of Web-based technologies have brought about paradigm changes in the way of teaching and learning (DeNeui & Dodge, 2006). These technologies have introduced new methods in which communities of teachers and learners can interact with one another despite being located in different geographical locations (Wilson & Stacey, 2004). In recent times, use of the term Web 2.0 has connoted the emergence of second generation or more refined Web-based applications such as wikis, blogs, RSS, social networks, and mashups. These applications may have different forms and functions, but they share a common characteristic of enabling and supporting Internet-based interactions within and between groups (Selwyn, 2008). Web 2.0 technologies are still evolving and provide ample opportunity to teachers and learners to experiment with new ways to teach, learn, interact, and evaluate.

This chapter is an attempt to understand how educational institutions offering online courses can take advantage of Web 2.0 technologies for providing a social and collaborative learning platform for students and teachers. This chapter will discuss the types of available Web 2.0 technologies and their applications in an online learning environment. Myriad challenges that institutes may face while design-

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ing, developing and implementing online learning environments will also be delineated. The chapter will conclude with a brief discussion on the road ahead for the education sector.

## **WEB 2.0 TECHNOLOGIES**

Web 2.0 is clearly the second coming of the Internet and represents the rapid proliferation of new generation Web or Internet-based technologies. Web 2.0 has created the platform for increasing interpersonal content facilitation, creativity, innovation, service delivery, and collaboration. Organizations have been quick to take advantage of prevalent Web 2.0 technologies in multiple ways; providing a better communication channel for all stakeholders for sharing their experiences, encouraging collaborative working and introducing innovative ways of marketing products and services.

Web 2.0 is markedly different from the first-generation applications and tools of the early Internet era of the 1990s and early years of this millennium. Web 2.0 facilitates a more interactive form of exchange rather than the one-to-many form of exchange of Web 1.0 applications. Information is also shared ‘many-to-many’ through Web 2.0 applications. These Web 2.0 applications facilitate suitable appropriation and sharing of content among multiple users. Additionally, they also facilitate content creation, teamwork and user-driven communication (Selwyn, 2008). Tim O’Reilly coined the term Web 2.0 and defines it as:

*...the business revolution in the computer industry caused by the move to the Internet as platform, and an attempt to understand the rules for success on that new platform. Chief among those rules is this: Build applications that harness network effects to get better the more people use them. (O’Reilly, 2006, p.1)*

There are numerous other ways authors have defined Web 2.0. Web 2.0 refers to the social use of the Web which allows people to collaborate, to get actively involved in creating content, to generate knowledge and to share information online (Grosbeck, 2009). Web 2.0 applications are stacked on the foundational technologies and open source standards that underpin the Web and the Internet. These applications kept getting more refined as new software technologies and hardware/software interfaces kept pace. Most of these applications are user processes or services such as wikis, podcasting, content tagging services, blogs and multimedia sharing services (Anderson et al., 2007).

Web 2.0 has unleashed a set of activities typically associated with four human dispositions: the expressive, the reflective, the playful, and the exploratory (Selwyn, 2008). It has verily transformed online teaching and learning experience bringing in more interactivity and engagement through user-processes and services such as wikis, RSS, tag-based folksonomies, blogs, microblogs, media sharing, and social networking. These technologies enable control and critical data aggregation and analysis. There is also availability of a wide range of resources for data and information search. These technologies boots collaborative efforts and provide ubiquitous access through varied Web hosts and wireless delivery Web (London & Hall, 2011). Table 1 represents a summary of Web 2.0 applications and their examples.

## **ONLINE LEARNING ENVIRONMENT**

An important element in a typical classroom environment is the opportunity for a learner to interact with teachers as well as peers. This interaction includes a number of learning activities ranging from asking a

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