Chapter 12
Using Web-Based Technologies and Communities of Practice for Transformative Hybrid and Distance Education

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ABSTRACT
This chapter explores the use of Web-based technologies incorporating communities of practice and social networks to enhance the learning experience in hybrid and distance (online) classes. Research suggests that using a variety of technologies and methods to reach people with different learning styles improves overall learning in a class delivery though different methods are more effective in traditional vs. online classes. Moreover, using new, emerging Web-based technologies, including both Web 1.0 and Web 2.0 software, further enhances the engagement and value of the learning experience in these classes. This chapter examines the methods and technologies that can be potentially used to create excellence learning environments in traditional hybrid and online classes.

INTRODUCTION
Online education is assuming greater importance throughout higher education. As more non-traditional learners enter academics, especially at the graduate level, distance education becomes an important resource to enable them to achieve their academic goals given the demands of work and family. However, the challenge of creating a rich, contextual learning environment is often inhibited by technologies that impede collaboration, communication, and a true understanding of the material. This paper contributes to the existing literature by exploring the use of new, emerging technologies that incorporate communities of practice and social networks in order to enhance the distance learning experience. The study also contributes to understanding how to more effectively deliver quality education in all three types of classes: traditional, online and hybrid.
THE TRADITIONAL CLASSROOM

A traditional class occurs in real time where the instructor and students meet in a physical location at specified times during a traditional time period such as a semester. The advantages of traditional classes include: personal attention, the ability to interact in a real-time environment, adapt to changing conditions or nature of the class and content, and the immediacy of responses and interactions among professors and students. The professors and students also have the opportunity to develop trust, rapport and relationships over the semester. Abstract and complex issues are easier to convey and explain in a face-to-face environment.

In contrast, the disadvantages include the inconvenience of time, travel, short, limited duration of the class, personality conflicts, and often, not enough time to digest and reflect on class presentations and discussions.

ONLINE DISTANCE CLASSES

Online education is often defined as involving the Internet and web-based technologies to deliver distance education. It can be delivered asynchronously, where the students and instructor do not communicate in real time, using web-based technologies such as asynchronous discussion forums, repositories, and e-mail. It can also be synchronous, where the students and instructor communicate in real time using web-based technologies such as chat rooms or teleconferencing over the Internet (Martinez, 2004).

The advantages of pure online classes include convenience, accessibility, the ability to spend time on course content and class discussions before responding. However, the disadvantages include a lack of rich, contextual cues from face-to-face interactions, potential feeling of separation from class, instructor, classmates, and difficulties in using technologies.

Distance education continues to proliferate both in higher education as well as in businesses, as the costs of travel and work pressures increase. According to the GAO (2007), enrollments in higher education distance classes have almost quadrupled since 1995. The Sloan Consortium reported that over 3.9 million students nationally took at least one online course in the fall, 2007 semester. This represented a 12% increase over 2006 statistics (Heck, 2009). Distance courses and programs in higher education represent a real avenue for growth, expanding opportunities for traditional and non-traditional students.

HYBRID CLASSES

A hybrid class is one where a professor offers a traditional class with regularly scheduled classes in a classroom with live students. However, the classroom doubles as a technology-enabled room which supports distance education. As budgets continue to shrink, administrators and faculty have recognized the value of providing hybrid classes to serve the traditional students as well as the non-traditional students.

Hybrid classes are also becoming popular in traditional classes as a form of supplementing the regular format. For example, in a study by Carnegie Mellon, they found a representative example of a statistics class where the professors created a web site with the class content and then held discussion sections after the students had studied the material. The results were positive, showing that the class took less overall time and the students had equivalent scores on the exams as in the traditional classroom (Timmer, 2009).

While hybrid classes are attractive because of their resource efficiencies, they also pose interesting challenges for the instructors who must design a dual delivery system. Most instructors will agree that it is more difficult to teach an online class because of the lack of face-to-face interactions,
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