Chapter XIX

Using a Course Web Site to Enhance Traditional Lecture Style Courses: A Case Study and Approach for Site Development

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This chapter examines the role of the World Wide Web in traditional lecture based courses. It details a student oriented approach to the development and maintenance of course Web sites. An experiment was conducted in order to determine if use of a course Web site improves student performance. The surprising results, that students in certain sections did not use the site at all, are analyzed. It was concluded that using the Web in class and making Web assignments part of student's graded work may impact use of a course Web site.

The past few years have seen an enormous growth in the accessibility of Internet technologies, especially the World Wide Web. This medium provides an ideal interactive environment and creates new opportunities for instructors to interact with students.

Due to their knowledge of the technology involved, information systems instructors have taken a lead role in using World Wide Web sites to augment their traditional lecture based teaching. Some institutions are offering entire IS and other degree programs online.

Since building a class Web site can be very time consuming it is important to know what content and features will work best to help students in learning the course material. In addition, it is important to understand why students use or don't use the Web site. This chapter discusses the factors driving the development of class Web sites and describes student's attitudes toward an actual site. It also shows that students can successfully build and maintain course Web sites with guidance from the instructor.

First, some background is provided on the nature and growth of the World Wide Web and its use as an instructional medium. Next, a rationale is provided for the use of instructor developed course Web sites in information systems education. In the following section a case study and experiment involving an instructor developed course Web site are discussed. Finally, future trends and conclusions are presented.

BACKGROUND

Use of the Internet has grown at a tremendous pace over the past five years. Since the introduction of the Mosaic Web browser in 1993, Web traffic has increased by almost 350,000 percent (see http://www.pbs.org/internet/timeline/index.html). In that period of time the number of Web sites has grown from 130 to over 4 million (Zakon, 1999). More importantly, the World Wide Web (WWW) and browsers like Netscape Navigator and Microsoft's Internet Explorer have made the Internet easy to use. In addition, new tools have become available for Web site construction. These tools make building a Web site as easy as using word processing software. In fact, the popular Word '97 word processing package allows users to save their files in hypertext markup language (HTML) format.

The increased use of the WWW and the ease with which Web sites can be built has led many professors to offer some or all of their course materials online. Many of these efforts are simply online versions of the course syllabus, while others are full fledged distance education sites. For a good overview of course materials available via the WWW, The World Lecture Hall (http://www.utexas.edu/world/lecture) provides links to online course content on almost every topic.

Since these sites were created by individual instructors, they vary widely in their use of the available technologies. A small number of these sites aim to provide student's with feedback. This feedback typically takes the form of an online quiz or case study. The benefits of greater interactivity in learning environments are well known (Kuehn, 1994). For example, Millbank (1994) showed that interactivity improved the retention rate of corporate trainees from 20 percent to approximately 75 percent.

Schwier has developed a taxonomy of interactions for instructional media (Schwier, 1992; 1993a; 1993b). This taxonomy identifies three major categories of interaction: reactive, proactive, and mutually interactive. Wagner (1998) discusses how the WWW can be used to facilitate these types of interaction and adds a fourth type called constructive. Students are reactive when they read course material presented on a class Web site. They become proactive when they are required to use the Web to solve certain problems. Mutually interactivity is facilitated through the use of online discussion forums. Finally, constructive interaction occurs when students are required to build their own Web site (Wagner's study did not support this level of interaction).

Instructor developed course Web sites vary widely in the types of communication technologies provided. While e-mail seems to be used universally, other technologies such as listservs, newsgroups, collaboration technologies, and chat rooms are missing from many sites. These technologies are essential to facilitating mutual interactivity. Instructors seem to be using their sites in one of three ways:
1. As an online syllabus
2. To support a lecture based class
3. As a means of distance education

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