There has been a recent explosion of interest in distance education. On college and university campuses, this interest owes much of its life and vigor to (a) a belief by university faculty that technology may be able to improve instruction, and (b) the sudden realization by university administrators that distance education is producing large sums of money and has the potential to produce much more.

In higher education, the World Wide Web (WWW) has come to be one of the most popular service delivery vehicles for distance education efforts. At first, most sites were created primarily for courses delivered entirely over the Web. More recently, many Web sites are being created by individual instructors as supplements to their more traditionally delivered, on-campus courses.

Currently, many thousands of Web sites are dedicated to higher education courses, and the number of such sites is increasing rapidly. This rapid increase has resulted in publication of many course-related pages that are less than ideal in both pedagogical and technical terms. This problem is especially acute for those pages that are supplementary to traditional courses, since there are seldom support services available for instructors who wish to design, create, and maintain such pages. Consequently, individual instructors are typically “on their own” with regard to planning, producing, and maintaining such pages.

In contrast, institutional technical and pedagogical support is often provided for developers of Web sites intended for use in courses delivered primarily or exclusively by distance education, since such efforts are often assigned to a special unit such as an extension department or a department of continuing education. These units often employ or retain both technicians and subject matter specialists to assist in the development of course-related Web pages. Although this does not guarantee a quality product, some of the more obvious problems faced by individual instructors are sometimes avoided.

The lack of support for instructors of traditional on-campus courses who wish to create and maintain supplementary Web sites is unfortunate because good supplementary pages can be highly beneficial to both professors and students. While useful pages can be
developed by professors who have some simple knowledge and skills related to the Web, poor pages are often the result of efforts by neophytes who lack such prerequisites.

The purpose of the present chapter is to present aids and cautions for higher education instructors who wish to produce Web pages as supplements to their courses. It is hoped that the suggestions found here will improve the quality of such pages and their usefulness to both learners and teachers.

BACKGROUND

There is little argument that the demand for distance education is increasing rapidly. In fact, there are estimates that as early as 1997, the global market for technology-based learning was already $6 billion, and that it will increase to at least $26 billion by the year 2005 (Canadian Telework Association, 1998).

McIsaac and Gunawardena (1996) suggest that distance education is currently the fastest growing form of education in the U.S. and across the globe, and is now universally considered an important part of mainstream education. Some experts have suggested that this phenomenon is so important that “We are clearly looking at a paradigm shift in educational practice” (Trilling & Hood, 1999, p. 10). It remains to be seen whether distance education will actually bring about such a paradigm shift. However, there is no denying that it is having profound and diverse effects on faculty in higher education. Dillon and Granger (1998, para. 12) suggest, for example, that “Distance education today has exceeded the mere concerns of time and space and is forcing us to question some of our most basic approaches to teaching and learning.”

Universities and colleges around the world are now scrambling to provide on-line courses, many of which make use of the World Wide Web for all or part of course delivery. In addition, professors everywhere are increasingly providing Web sites that supplement traditional undergraduate and graduate courses (LeJeune, 1998; Maddux, Cummings, & Torres-Rivera, 1999).

An indication of the extent of interest in the Web for course-related use is that a recent search using the AltaVista search engine (http://www.altavista.com/) and the search string “syllabus” produced over 1.6 million “hits!” An informal examination of the first 200 of these sites shows that most are related to higher education classes of one type or another. Narrowing the search string to include only those sites that deal with “Web,” “university,” and “instruction” still resulted in over 177,000 identified Web sites.

Like all course materials, Web-based course materials vary in quality. It almost goes without saying that high-quality educational pages must be carefully planned, developed, and maintained. However, even a casual scanning of available Web sites reveals that such care has not been taken with many existing pages. In fact, the Web is littered with higher education course-related pages that are technically and/or pedagogically flawed. Perhaps this should not surprise us, since, as Crossman (1997) has pointed out, the Web, like life itself, is full of “incredible amounts of trivia, misinformation, bad manners, hostility, stupidity and other vagaries of mankind” (p. 22). However, he goes on to suggest that the Web, with all its problems, has the potential to become the most comprehensive communication system ever developed. We agree, and further suggest that it has the potential to become the single most important and most positively transformational influence in modern education.
Optimizing Cognitive Load in Instructional Simulations and Games

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