Course Management Systems:
Hope or Hype?

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ABSTRACT

Development and sale of computer-assisted instructional supplements and course management system products are increasing. Textbook sales representatives use this technology to market textbooks, and many colleges and universities encourage the use of such technology. The use of course management systems in education has been equated to the use of enterprise resource planning software by large businesses. Research findings about the pedagogical benefits of computer-assisted instruction and computer management systems are inconclusive. This study describes an experiment conducted to determine the benefit to students of using course management systems. The effects of cognition, learning styles, and computer attitude were considered and eliminated to better isolate any differences in performance. Student performance did not improve with the use of the technology.

Keywords: computer-based instruction; distance education resources, online classroom; Web-based education; Web course development; Web-delivered education

INTRODUCTION

Advances in technology have become marketing tools in our society. Cell phone providers offer text messaging, photo capability, and Internet connectivity to entice consumers to purchase their service over that of the competition. Businesses offer online bill paying, discounts for Internet orders, and auction derived pricing opportunities. Publishers of today's college textbooks offer a variety of computer-based supplements and computer-based course management tools to accompany their textbooks. Textbook sales representa-

tives use these technologies as a strategic marketing tool when approaching college faculty about textbook alternatives and adoption. Faculty members are promised easy implementation and it is implied that the technologies will lead to improved learning for students.

Today's society expects to receive things on demand. Purchase software and download it immediately, follow the stock market up to the minute, take a test and get the results immediately. Course management systems make course materials and student performance available continuously

and as fast as the instructor can post the information.

The expanded use of the Internet in our society has changed the standard method of transmitting information in education (Aggarwal & Legon 2006). The academic community uses networks and the Internet for communication and conferencing, and for information access, retrieval, and use. Previous studies confirm that connectivity is beneficial to pedagogy when interaction, discussion, research, or transmission of information is involved; however, there have been few experiments to determine how Internet-enhanced courses affect student learning and understanding (Agarwal & Day, 1998).

Publishers are responding to apparent changes in demand for technology while managing profitability. Colleges are attempting to restructure to balance resources with changing demands: faculty members are encouraged to learn and incorporate technology into the curriculum with the belief that students will experience improved performance. However, research findings about the pedagogical benefits of computer assisted instruction and computer management systems are inconclusive (Russell, 2002; Morgan, 2003). This paper describes an experiment to determine whether publisher provided textbook technology simply provides accessibility or provides true pedagogical benefits to the student.

Course Technologies

There are many terms used in the literature over the past several years to describe the use of computers and technology in education. Computer-based education (CBE) and computer-based instruction (CBI) describe the use of computers for drill and practice, tutorials, simulations, instructional management, supplementary exercises, programming, database development, writing using word processors, and other applications. Computer-based training (CBT) refers to self-paced tutorials frequently used in industry. Computer-assisted instruction (CAI) refers to drill-and-practice, tutorial, or simulation activities offered either by themselves or as supplements to traditional, teacher-directed instruction (Cotten, 1991).

Course management systems (CMS) were developed in the mid-1990's as distance education developed and expanded. Course management systems used in higher education include applications for course content organization and presentation, communication tools, Web pages, and course management functions such as materials and activities. These systems may operate on the university's network or use the Internet to operate from the publisher's network.

WebCT, Blackboard, LearningSpace, and eCollege are the most commonly used course management systems in higher education today and are described as the academic system equivalent of enterprise resource planning (ERP) systems (Morgan, 2003). These course management systems provide a structured format with built-in applications to facilitate faculty's adoption of technology into the course curriculum.

Textbook publishers develop packages for use in conjunction with these CMS platforms. The package generally contains all of the instructor tools available from the publisher plus grade book capabilities and communication applications such as chat rooms. Students can access their grades from the CMS and faculty can develop and use some of their own material in conjunction these applications. Figure 1 shows the breadth of common components inherent in a course management system.

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