Migrating from Traditional Teaching to an On-line Environment is an Evolution, not a Change

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Due to the constantly evolving world of technology, understanding the evolution from traditional teaching methods to an online environment has become increasingly important for almost everyone in academia. Educators need to understand this evolution and how it affects curriculum and development. This article focuses on the evolution of on-line courses, including the challenges of converting traditional courses to online courses and the measurement of outcomes in such courses. Although course objectives rarely change, the constantly evolving world of information technology and how it affects curriculum content and development is a paradigm that needs to be constantly addressed by many disciplines in higher education. As in traditional teaching, measurement of outcomes is critical to curriculum development in online courses. This article examines the relationship between the use of technology and content area. Specifically, we focus on the analysis and design of online courses and examine how technology has empowered students and faculty successfully to integrate technology and academic outcomes.

The evolution of online courses has been inevitable. In the past, university students were primarily recent high school graduates who lived and studied on campus full-time. Although this traditional learning environment is still found on many campuses, especially large state universities, the number of non-traditional students (those over 25), coupled with the logarithmic growth of technology, has resulted in the relatively new education medium of what is commonly referred to as online education. Today's students are older, and many are working and married with child-care responsibilities (American Council of Higher Education, 1993; Gardiner, 1997; Handy, 1998; Hansen, 1998; Yang, 1997, 1998).

To administer to the personal and academic needs of today's diversified student body, it became imperative that faculty in higher education be innovative in their teaching methods. Although some universities responded to the changing demographics by offering evening and weekend classes, additional innovations in teaching were necessary to meet the needs of older adults and of those working full-time (Moore & Diamond, 1995). Further, to meet the needs of non-traditional students, some colleges also had to find alternative educational methods as means of maintaining and increasing enrollment. A new revolution has begun which includes distance education (Arenson, 1998). Distance education specifically refers to instruction conducted at a distance by a professor who plans, guides, and evaluates the learning process.

Distance education is nothing new; it is just evolving much more quickly now than in the past. It began in the middle 1800's when the technology of that time, the postal system, was used to offer correspondence courses. Even then, it served a purpose, as it offered educational opportunities to the disabled, women who were unable to enroll in institutions open only to men, people working during the day, and people living in remote areas. Next came the radio and television, both of which brought new forms of communication and fostered educators' involvement in the broadcasting of educational programs. It was not until the spread of computer-network communications in the late 1980s, however, that distance education began to evolve quickly (Sloan, 1985). Many colleges now realize that they must effectively change their instructional methods or become extinct.

A few universities, such as the Online Campus of the New York Institute of Technology and the University of Phoenix, now offer complete undergraduate degrees in science, business, and management. In addition, some colleges and universities are now beginning to find their unique niche by offering on-line courses (through distance education) to both traditional and non-traditional students. Clayton College and State University (CCSU), a unit of the University System of Georiga, is such a university.

The diverse student body at CCSU is different from

the student body of many traditional universities. Only 11 percent of the students in the School of Business are between the ages of 18 and 21, and 41% are married. Approximately 65% are working full-time and 29% are employed part-time. Most of the students are also coming to school part-time and are not planing to change jobs following graduation. Since many of the non-traditional students are older and have different responsibilities than the typical college student (Moore & Diamond, 1995), CCSU, in order to increase enrollment, has attempted to find ways to reach the non-traditional students, instead of using methods that appeal only to high-school seniors.

The Migration from Traditional Courses to On-line Courses

Clayton College and State University has effectively used advances in technology to change its traditional curricula. It began in the spring of 1995 when the University decided that distance education would be used to facilitate its mission and activities. Courses were initially offered, in the fall of 1996, via the Georgia Statewide Academic and Medical System (GSAMS) network to students located at remote sites in Conyers and Fayetteville, Georgia. The GSAMS network permitted the university to provide interactive distance learning through two-way video, audio, and data signals to participating off-campus sites. Prior to offering any courses, however, the Distance Learning Advisory Group took over a year to develop a Distance Learning Responsibility Matrix. This matrix, which included both administrative matters and logistics coordination, covered 52 different areas of responsibility. Equally important, the Distance Learning and Advisory Group indicated that the following needs were necessary for successful distance education: (a) appropriate programming, faculty and students; (b) live interaction; (c) motivated coordination; (d) learning support and resources; (e) high quality production values; (f) faculty/staff training and support; (g) use of appropriate technology; (h) marketing; and (i) administrative support and encouragement.

Using the GSAMS network was just the beginning for CCSU. In the fall of 1997, CCSU began an innovative Information Technology Project (ITP) by issuing laptop computers to all of its students for their use while attending the university. Another concurrent program, Universal Personal Information Technology Access (UPITA), provided Internet access for each student. Although distance education was already being used sparingly at the university, the ITP implementation and UPITA had a substantial impact on how courses were taught. Faculty members in the business and technology schools have developed innovative teaching methods by incorporating information technology into an integral part of each student's learning experience. When taking online courses, the remote access provided to all students enables them to use a standard telephone outlet to dial into the campus network so that they are able to do their course work without actually being on campus. All students have access to web pages for each course. The university now offers more than 80 innovative, technology enriched courses, including 19 within the School of Business and five within the School of Technology.

Measurement of Outcomes in Online Courses

CCSU has stated that the outcomes for all online courses must equal or exceed the current standards for on-campus courses in the applicable school or department. The university has established a Pedagogy in an On-Line Environment Seminar Planning Group that meets on a monthly basis. Clarification of goals, learning objectives, and the relationship to the university's mission statement for each online course are discussed, with an emphasis on pedagogy in a technological context rather than on instructional technology. The university, realizing some of the problems apparent with incorporating interactive classroom activities in online courses, also has a Center for Instructional Development (CID) and a Faculty Instructional Development Lab (FIDL).

The CID assists faculty in multi-media and web-based project development, and the FIDL provides invaluable assistance through workshops and instructional design. As part of the instructional design process, FIDL assists the faculty in three areas: analysis and design, production and evaluation. In addition, CCSU's School of Business is currently developing an Instructional Responsibility Study, which focuses on defining competencies that each student has to develop. Competencies include communication, technology, critical thinking,

interpersonal interaction, business environment, and global issues. Although continuing to evolve, the following themes relevant to the technology competency are thought to be pivotal to the success of on-line courses in the School of Business: (a) minimum goals and standards will be determined for each course; (b) interactive communication will be focused upon and monitored (WebCT); (c) the Internet will be used for effective information use; (d) courses will continually be assessed and evaluated for quality and effectiveness; (e) students must be able to use technology to make effective presentations; and (f) students must be able to use technology in problem solving techniques.

All students at CCSU have access to web pages for each course, which include course syllabi, PowerPoint presentations, lectures, chat rooms, bulletin boards, and discussion zones. Mini courses are also offered to assist students' understanding of their computers. Further, as part of the evolutionary process, whiteboards and bulletin boards are increasingly being used and monitored as a means of improving the interactive learning process. Whiteboards, which give groups of users the opportunity to share a common page in real time, have become a valuable tool for online group discussions. Bulletin boards provide the opportunity to post, read, and search for messages and have evolved to where it is now possible to search and review all postings.

Little has been done to determine if online technology is "pedagogically more effective than older technologies" (Bates, 1994). Although online pedagogy and instruction have been defined for online courses, some educators feel that online education does not offer the value of an on-campus education (Mangan, 1999). Others feel that the perceived lack of quality in online courses might even effect the certification process for universities (McCollum, 1999). Some question if computer-based instruction significantly enhances the learning process (Frost & Fukami, 1997).

Another area of concern in the offering of online courses involves the shifting role of professors (Nelson, 1999). The concept of earning degrees entirely online is still evolving, and many people believe that learning on campus is still the best method. According to a recent Associated Press article (1999), two-thirds of the 34,000 professors surveyed in a 1998-99 academic year study by the University of California reported more stress in keeping up with technology than with publishing or teaching loads.

Faculty in the School of Business at CCSU is continually measuring the effectiveness of online courses. A recent study (Yang & Arjomand, 1999) compared students' course performance in similar online and on-campus courses. The study concluded that there was no significant difference between student academic performance in similar online and on-campus classes.

Summary and Conclusion

Measurement of outcomes for online courses is currently in the exploratory stage. Although initial results indicate no significant difference in the performance of students enrolled in similar online and on-campus classes, several additional variables (eg., age, gender, GPA, learning styles, career orientations) should be considered on a longitudinal basis as significant correlates of student performance in online classes. Yang & Arjomand (1999) examined student course performance for students with different GPAs, and Deis & Arjomand (1999) examined SAT scores as predictors of success in on-line managerial finance courses. Scores obtained on the School of Business Strategic Management course national exam by graduating seniors are currently being reviewed to determine if technology has lead to an increase in test scores and a new questionnaire will be given this semester to measure student satisfaction with online courses.

The key issue is the continuous design, development, and review of courses to meet the needs of non-traditional students. The actual experiences of students in online courses must be critically assessed. Discussions occurring in online courses must be thoroughly reviewed, through such software as WebCT, to understand how professors facilitate discussions among students. Priorities must be placed upon course content and instructor's skills. It is important that professors develop new pedagogues and continually seek means of improving the management of their online courses.

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