

BUILDING SUPPORT FOR ONLINE COURSES FROM FACULTY AND STUDENTS

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Effective development and deployment of a distance education program at the traditional university level is examined using the Department of Technology and Cognition at the University of North Texas (UNT) as the subject of a case study. The evolution of the department's distance education program from the late 1980s to the present is highlighted. In addition, we analyze types of distant-class offerings; skills needed for enrollment; design and implementation parameters; faculty concerns, including participation, training, salary, workload, promotion, and tenure; student interests; and hardware and software issues. The department's solutions to commonly encountered problems are provided, along with suggestions for engaging the distant learner while not alienating the faculty or the traditional student.

In the past 10 years the concept of learning at a distance has become firmly entrenched in educational environments. The Department of Education reports that 990 institutions expect to join the 1,680 institutions offering distance education (National Center for Education Statistics, NCES, 2000). Cornelia M. Ashby, Director of Education, Workforce, and Income Security Issues (2002) stated in a speech to the United States General Accounting Office that, “[o]verall, about 1.5 million out of 19 million postsecondary students took at least one distance education course in the 1999-2000 school year” (p. 3). By 2002, more than 84% of 4-year institutions were offering distance education courses (Ashby, 2002). The number continues to rise.

The value associated with distance education has largely been confirmed. The comparative success rates of online courses versus traditional models are without question. Thomas Russell has put together a collection of more than 355 research reports outlining the “No Significant Difference Phenomenon.” These reports highlight the fact that students in distance learning environments learn as well, if not better, than their face-to-face counterparts (Russell, 1999).

High profile online universities, like Nova and Phoenix, continue to attract students by providing educational opportunities outside of the traditional institution of higher education. In fact, Phoenix University is averaging more than 500 new students a month and has “pulled

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off the rarest of feats: Its stock has skyrocketed," hitting all-time highs, "despite the worst tech-stock bear market in history" (Symonds, 2003).

Most traditional institutions recognize that they, too, will have to provide some, if not a significant portion, of their educational offerings in a Web-based or other nontraditional format. Providing these offerings as part of a traditional university requires different planning and implementation strategies than would be the case for an institution providing only virtual educational opportunities. Established brick and mortar institutions implementing Web-based programs must address a host of issues from classroom space and collaboration/partnerships between departments to technology staffing and faculty participation. Uniform curriculum development that supports both the traditional, distant, and *blended* learner also poses unique challenges. Moller (1998) points out that while traditional institutions can benefit from using electronic delivery methods, new ways of using technology have to be employed and understood by educators and merely "recreating the present [classroom experience] in a more efficient manner seems wasteful when the status quo is of questionable effectiveness" (p. 121). However the program is designed, if it is to be a success it must "permit equivalent learning experiences for distant and local students" (Simonson, Smaldino, Albright, & Zvacek, 2003, pp. 22-23).

Using the Department of Technology and Cognition at the University of North Texas (UNT) as the subject for a case study, this article looks at some of the issues surrounding the effective development and deployment of a distance education program at the traditional university level. The issues encountered, from the inception of UNT's distance education program in the late 1980s to the present, serve as a case study outlining the evolution of distance education at UNT as well as potential implementation issues that may prove useful to other distance learning programs.

A BEGINNING

Beginning in the late 1980s, like many metropolitan areas, the population center served by the University of North Texas experienced dramatic population growth that had a significant and detrimental impact on student ability to travel within the area. According to the online data from the United States Census Bureau, Denton county (the county of residence for UNT) experienced a dramatic population growth of 58.2% from 1990-2000. Likewise, the surrounding counties that the university serves, when taken as a whole, experienced 10-year growth patterns well above the state average. In the year 2000, the population density of Denton County was 487.3 persons per square mile; Dallas County: 2,522.6, Tarrant County: 1,675. All are well above the state average of 79.6 persons per square mile (U.S. Census of Population and Housing, 2001). With this kind of growth and congestion, students were frequently late to classes because of traffic. In many colleges, graduate programs catered to part-time students who pursued degrees while employed full-time. Some of these students found it increasingly difficult to commit to class meetings because of travel obligations to and from the university. The university's central administration expressed concern about the difficulty students had getting to campus and encouraged programs to explore alternative delivery systems. To address this initial need for distance learning, the faculty would go to satellite facilities to offer classes and more classes began using point-to-point conferencing equipment.

In 1992, the College of Education at the University of North Texas set up a point-to-point video teleconferencing program to provide in-service programs to teachers in local school districts. The intent was to make it easier for both university faculty and public school teachers to come together in a virtual meeting. Equipment costs, scheduling problems, and the reluctance of teachers to travel to specified sites for these programs limited the effectiveness of this initiative. In addition, it

was discovered that video conferencing did little to assist students whose business travel prevented them from coming to class. Another option had to be made available.

Realizing that effective distance education should concern itself with creating a conversation within a community of learners (Lynch, 1998; Moller, 1998), the Department of Technology and Cognition, in 1993, began providing course content, using Internet-based streaming audio and video. Utilizing an Internet connection, students could log on to a local file server from anywhere in the world to receive course content. Understanding that learning occurs in a social context and "common understandings regularly result from social negotiation of meaning which is supported by collaborative construction of knowledge" (Jonassen, 1993, p. 234), teaching assistants were hired to monitor email from students during classes and ask any questions that were posed, so that students participating at a distance could have quick responses to their questions. After the class session, the recording was permanently placed on a server so that students could access it at any time. The record would serve as a review for students who attended the class and as a substitute for students who were unable to attend.

This procedure worked quite well and class evaluations, student comments, and informal surveys reveal that students appreciated the extra effort made by the faculty to have class sessions captured on video. While many students continued to come to class each semester, an increasing number chose to continue their studies off campus. Giving students the choice virtually eliminated the issue of students being unwilling to commit to a class for fear of not being able to attend. The remaining problems involved the expense of hiring teaching assistants, purchasing recording equipment, maintaining file servers, and the current level of bandwidth available to the students.

For the next 5 years, the Department of Technology and Cognition continued to explore electronic delivery mediums. It became increasingly obvious that student

demand would continue to grow for courses delivered in an electronic format. Examining what types of students would benefit from the service as well as the personal characteristics of the distant student helped with planning and selecting courses (Knowles, 1980). Realizing that there were technology and design issues, faculty members discussed various programs and courses and identified courses they felt could be appropriately delivered electronically. In choosing which classes to deliver in distance education formats, consideration was given to creating courses that met the personal and professional needs of our demographic, could appropriately fit into our implementation and design plans, and had enough local demand to justify the expense (Stewart, 1995).

IMPLEMENTATION

Recognizing the need for gradual implementation, selected courses were moved from the traditional format to electronic format in three stages.

The first stage involved providing various materials used in the class on the Web. These materials consisted of syllabi, reading assignments, and other materials that would have normally been duplicated and given to the students during a class period. Students were also encouraged or required to use electronic means to communicate with the instructor rather than wait until class met.

The second stage consisted of providing a course that delivered less than 50% of the content on the Web. This followed the concept of blended or integrated learning in that a traditional classroom environment was supplemented with electronic media. A traditional class, which met at regular intervals, was recorded to provide for asynchronous learning opportunities for other students. The recorded files could be accessed via the file server at anytime that was convenient to students. Several options were used in this phase. Course content was captured on videotape during actual class sessions. This videotaped material

was then edited, as a practical exercise by graduate student employees (helping to control costs), and digitized and stored electronically on a file server. After a given class meeting, students could logon to the network and watch, or just listen to, the class sessions. These materials were provided to the students to use as review or as the sole source of their content on those occasions when they were unable to attend punctually or at all.

Since each video session was a live class, some familiar recording problems were experienced. Not only did the instructor have to conduct face-to-face classes, but s/he also had to ensure that all information was translated intelligibly to the audiovisual recording. Raised questions and their answers had to be delivered (and sometimes reiterated) at sufficient volume for the recording to capture them. Information that was illustrated using a blackboard or dry-erase board had to be carefully written so the student could view it. If manageable, this still posed some disruption to the live class. From the perspective of the student end-user accessing the streaming audiovisual presentation outside of class, problems of inscrutability sometimes arose due to computer monitor screen size. Once these issues were diagnosed, instructors began to compensate by incorporating electronic versions of graphs and other visuals that students could print. This required more advanced planning on the part of the instructor and tended to hinder improvisation often found in less structurally rigid classrooms.

Subsequent iterations offered content on CD-ROM when the content could be expected to be stable for a specified period of time. Content needing constant modification continued to be updated using streaming capabilities. Using this delivery methodology was more time intensive and expensive than using the traditional delivery, but it allowed greater schedule flexibility for absent and distant students. Students consistently expressed their appreciation of efforts to convey course content in these ways.

The third and final stage of development was providing 100% of the content electronically. No standard course configuration was imposed on instructors/designers. (As is discussed later in the article, this led to issues surrounding delivery that had to be addressed.) Some modeled the course after traditional courses, dividing the Internet version into separate modules, with appropriate outcomes and assessments. Other faculty used a more generic model, providing students with all of the course materials, expected outcomes and time lines up front, and otherwise permitted the student to ascertain the most appropriate way to complete the coursework.

COMPUTER SKILLS AND COURSE OFFERINGS

While it would seem that a student interested in taking an Internet course would recognize the necessity of basic computer skills and computer access, this proved not to be the case. Many students became frustrated when they enrolled in Internet classes without having access to a computer. Indeed the university provided numerous computer labs where students could “attend” class, but it seemed counterproductive to develop a distance education course that students were still attending on campus. In many cases, students would delay accessing the course until it was too late to withdraw without penalty. It became apparent that students were not always the best judges of their abilities to succeed in a distance education format. Some safeguards needed to be put into place to ensure the success of the program.

In order to clearly identify the format of various course offerings—traditional or Internet—the university decided to designate Internet courses by using section-specific numbers. Students selecting a course would know by the section number whether the course was delivered online or on campus. Since courses were in different stages of development, it became necessary to provide students with additional information about potential course meetings

because courses that were not 100% Web-available require some class meetings. The faculty settled on a simple, effective way to designate the different courses and while remaining consistent with the university parameters.

Traditional on-campus courses were limited to sections numbers .001 to .009. Courses that provided some basic information on the Web would be designated with section numbers from .010 to .019. These courses would not be considered Internet courses, but rather traditional courses with some material available on the Web. Courses that were 100% Web-based would be designated beginning with .020. These courses would not require any on campus meetings since all of the material, activities and interaction would occur on the Web. Courses that were 51% or more—but not

100%—Web-delivered would require one or more meetings on campus. These courses were identified with the section numbers from .030 to .039. As students registered for courses, this classification system afforded them greater understanding of what to expect from the courses: whether courses were 100% Web-based or require some campus meetings (see Table 1).

In addition, standard information would be available to the student to assist them in making a determination to take a particular course or not. In the university's schedule of classes, each class that used the Internet for delivery of any content (any course with a section designation from .020 to .039) would specify a URL where students could obtain precise information on the schedule of campus meetings, if any, and other relevant information. When

TABLE 1
Sample Course Offerings Spring 2004

020 Web-based only offering

CECS 2100 INFORMATION AGE

020 CRE 3.0 ARR ARR INET ENNIS-COLE DL
WEB BASED INSTRUCTION. CONTACT THE DEPARTMENT OR COURSES.UNT.EDU THIS COURSE IS DELIVERED USING THE WWW. THERE WILL BE NO CLASS MEETINGS ON CAMPUS. HOWEVER, THERE MAY BE SCHEDULED INTERACTIONS USING THE WEB. REFER TO [HTTP://WWW.COE.UNT.EDU/TACCOURSES](http://www.coe.unt.edu/taccourses) FOR THE COURSE EXPECTATIONS AND REQUIREMENTS BEFORE THE 3RD DAY OF THE SEMESTER.

026 Web-based only out-of-state offering

026 CRE 3.0 ARR ARR INET ENNIS-COLE DL
WEB BASED INSTRUCTION. CONTACT THE DEPARTMENT OR COURSES.UNT.EDU THIS COURSE RESTRICTED. LIMITED TO STUDENTS RESIDING OUT-OF-STATE ONLY. THIS COURSE IS DELIVERED USING THE WWW. THERE WILL BE NO CLASS MEETINGS ON CAMPUS. HOWEVER, THERE MAY BE SCHEDULED INTERACTIONS USING THE WEB. REFER TO [HTTP://WWW.COE.UNT.EDU/TACCOURSES](http://www.coe.unt.edu/taccourses) FOR THE COURSE EXPECTATIONS AND REQUIREMENTS BEFORE THE 3RD DAY OF THE SEMESTER.

001 Traditional onsite offering

CECS 3260 WEB AUTHORING

001 CRE 3.0 TR 12:30P-01:50P MATT 306 JONES JG

030 "Blended" offering

CECS 3440 INTRO TO INST TECH

030 CRE 3.0 ARR ARR INET MOLLER LA
WEB BASED INSTRUCTION. CONTACT THE DEPARTMENT OR COURSES.UNT.EDU THIS COURSE IS DELIVERED USING A COMBINATION OF WEB ACTIVITIES AND SCHEDULED ON CAMPUS MEETINGS REFER TO [HTTP://WWW.COE.UNT.EDU/TACCOURSES](http://www.coe.unt.edu/taccourses) FOR MEETING TIMES AND COURSE REQUIREMENTS BEFORE THE 3RD DAY OF THE SEMESTER.

offering the schedule of classes in a hard-copy format, departments have to decide, up to a year in advance, what classes will be offered in a given semester. This forces departments to commit to classes that do not always meet the needs of the student population. By providing this course-specific information electronically, the Department of Technology and Cognition had more room to maneuver and adjust course offerings as the need arose. This was better for both the university and the student population as it allowed for a more dynamic offering of courses that responded to both departmental and student needs. A secondary advantage to having students access their course information via the Web was that it showed that students possessed the minimum ability to access a computer and use it to obtain information. While by no means a formal assessment of students' computer abilities, it was a low-level safeguard that protected students from potentially unsuitable courses. Students whose computer skills prevented their obtaining this information would call the department to get help and be advised that taking an Internet course might not be in their best interest.

DESIGN CONCERNS

Within a short time it became apparent that several critical issues needed to be addressed. First, a process would have to be put in place to identify courses that would be most appropriate to be delivered from a distance. Second, in order for distance education to succeed, there would have to be opportunities for students to complete entire programs or professional certificates electronically. It made no sense to entice students into taking a few classes only to learn that, in order to complete the program or certificate, they would have to come to campus. Third, to encourage the necessary participation of faculty members in providing the breadth and depth of courses required, the university needed to develop real incentives.

To resolve the first issue, the university defined any course that delivers 51% or more

of the content as a distance education course. In order for a course of this nature to be offered, it had to be approved first by the department chair, followed by the college dean, and finally the academic vice president. With this decision, a policy was put into place providing for review of courses proposed to be offered using electronic delivery. The application required the author to provide information about the need of the course and how it would be marketed, if approved. Information was provided about the nature of the course, including content and type of learning; special challenges posed; differences between the distance education version of the course and any other course offered in the traditional manner; how interaction between students and faculty will be provided; and finally how student achievement will be measured.

Additionally, the applicant had to present evidence that support issues had been addressed for the course. For instance, questions of who would develop the course (faculty or some other entity); where the developer would find the time, without detracting from other obligations; what sources of funding were anticipated; and how much and what kind of support did the university have to provide had to be addressed. Also, with regards to student concerns, issues of registration and advising, computer literacy and access, and potential for students to complete the coursework for an entire program online, were of chief importance.

In addressing the second issue, regarding students being able to complete entire programs or professional certificates electronically, the university provides tens of thousands of dollars each year to be competitively awarded to faculty who are developing distance education classes. The award process includes a review by the department and college administration prior to being evaluated by a panel of faculty and administrators. Decisions are made based on how the proposal will facilitate the offering of an *entire* program electronically. Secondary issues considered by the review panel include the ability of the fac-

ulty member to do the development, matching support from the department or college, number of students that will be impacted, as well as other concerns inherent to the class in question.

FACULTY PARTICIPATION

The attitudes of all members of the faculty are critical to the success of any distance education program (Jones & Moller, 2003). With this in mind, the third issue that needed to be addressed in order to ensure the success of the distance education program was that of faculty participation and incentives. In 1998, the University of North Texas recognized that distance education had become a viable alternative or complement to many traditional, on-campus courses. Increasing numbers of faculty members began to provide parts of courses electronically, and students expressed more interest in the opportunity to engage in all or part of their classes without coming to the campus proper.

According to Jones and Moller, the current academic market place is such that distance education programs, without the support of faculty, have only a slim chance of success (2003). It is imperative to involve faculty in all aspects of the creation process and to emphasize that the technology will be used to scaffold and to enhance learning and not to replace teaching. Distance education is not to be seen as an extra burden or worse, a threat to tenure or to job security. Failure to address faculty concerns in a forthright manner can lead to significant rejection of distance education proposals and severely limit the effectiveness of any program (DeLoughry, 1995).

Bower (2001) acknowledges that faculty need motivation and positive reinforcement if a distance education program is to succeed. She stresses that any viable distance education program must address faculty concerns involving training, salary and workload, and promotion and tenure.

TRAINING AND THE CENTER FOR DISTRIBUTED LEARNING

According to a 1997 report from the National Center for Educational Statistics, only about 60% of higher education institutions had training that was available for faculty. Further, only about "a quarter of the institutions required faculty to have training in the use and application of distance education technologies, and to consult with support center staff; about 13% required training in curriculum development, and about 17% required training in teaching methods for distance education courses" (NCES, 1998, p. 43). These statistics suggest that only a small percentage of faculty are receiving much in the way of directly applicable distance education support or training.

Realizing the need for a support structure and acknowledging that the success of any distance education program depends on faculty participation (DeLoughry, 1995; Jones, & Moller, 2003) the University of North Texas, to assist faculty, established the Center for Distributed Learning (CDL). The CDL is staffed with instructional designers and technical support personnel. Faculty initially determined which course would be taught using the Internet, and the CDL staff did what they could to assist with training and in bringing the course online.

The CDL staff was quickly overwhelmed with requests for assistance. To reduce this load, the university adopted a standard Internet delivery system: WebCT. Faculty who were experienced in delivering Web-based courses could elect to use another delivery vehicle, but they would not have university support. Focusing distance education efforts in one format, enabled the CDL staff to provide training to faculty and students, standardized many of the variables in the delivery process and minimized technical support issues. Similar to the majority of higher education institutions, numerous training opportunities are available at UNT but not currently required of faculty. However, faculty are strongly encouraged to take advantage of CDL assistance.

Since this was only one of the university's initiatives, the CDL, if it was to fulfill its mission of providing training and assistance, would have to become self-sustaining. To address this concern, the university implemented a unique distance education funding model. The funding model specifies that when a student enrolls in a distance education course and lives in excess of 50 miles from the campus, or when a student is part of a specially recruited cadre of students, the college in which the class is housed receives a percentage of the student's tuition. The rationale for returning these funds to the college is that these students would have been unlikely to enroll at the university anyway. The CDL takes 13% of this returned tuition to continue funding its operations. Colleges are free to determine how to use the remaining portion of the funds. Several options are possible including paying for professional travel, hiring staff to develop additional courses, buying equipment, or paying faculty for various tasks outside their normal duties.

SALARY AND WORKLOAD

Faculty members have numerous legitimate concerns about salary and workload. A recent study conducted by the National Education Agency showed that while 75% of faculty currently hold positive feelings about distance learning, only 63% of distance learning faculty are compensated for a distance learning course as if it were a normal course. Schifter (2002) points out that there are no standards when it comes to compensating faculty for creation of distance education courses. Worse yet, the study highlights that while more than 50% of distance learning faculty spend more hours on their distance learning courses than on traditional classes, 84% did not see a corresponding reduction in workload (NEA, 2000). Jones and Moller (2003) point out that this perceived extra time commitment may cause faculty to abandon the idea of distance education deliv-

ery. If this pattern keeps up, good feelings cannot be expected to last.

The university has come up with several creative ways to address these issues. First, it is agreed that faculty members are to be paid the same rate for distance education courses as for normal courses. Second, funds returned to departments by the previously mentioned distance education funding model can be used to supplement faculty pay as well as hire additional help for designing and implementing classes. Third, the university also allows for intellectual property contracts. Each faculty member who develops a course is offered an intellectual property contract that provides royalty payments any time the course is offered but not taught by the developing faculty member. In preparing these contracts, consideration is given to the amount of university support the course received in its development and whether there are multiple authors. Each author receives a percentage of the tuition paid by every student taking the course. Additional consideration is given to the author if the course is to be licensed to other institutions, and both the university and the author are free to market the course.

However, online courses can still complicate faculty workload options. The size of online courses is not dependent on class seating capacity but frequently depends on the nature of the course, the amount of materials faculty will be expected to evaluate, and so forth. The Department of Technology and Cognition is currently trying to determine appropriate formulas that will permit us to effectively use faculty expertise without abusing them. Some possible options include employing "clinical" faculty members (CFM) to provide assistance with online classes for the Faculty of Record (FOR). These clinical faculty members could be appropriately skilled graduate students, competent with the content of the course. This idea is currently being used in the department by the Texas Center for Educational Technology in their newly implemented, fully-online Master's Across Technology degree with some success. How-

ever, issues concerning CFM and FOR training and duties are still evolving.

PROMOTION/TENURE

Faculty can view time spent on distance education courses as time better spent on other professional activities needed to secure tenure (Bower, 2001). If a good distance education program is to survive and evolve, it becomes imperative that promotion and tenure committees send a clear and straightforward message to faculty, especially junior faculty, outlining the importance of distance education teaching when it comes to future promotion and tenure (Rockwell, Schauer, Fritz, & Marx, 1999).

The skepticism and bias against online research and teaching was cleverly illustrated in a case study at Indiana University. In this case study, a fictitious professor was created who was heavily involved in Web research, online publications, and teaching. This professor was turned down for tenure after being discussed and evaluated by more than 150 Indiana University faculty and administrators (Kiernan, 2000). This shows how scholars interested in online work are often penalized or intimidated to pursue more *legitimate* scholarly work.

To this end, UNT encourages and supports involvement with distance education. The department gives credit to all faculty for their distance education efforts in yearly evaluations for promotion and tenure.

KNOWN ISSUES

Traditional institutions may find that there are many administrative and technical issues with the implementation of alternative delivery of educational materials that must be resolved. These issues are readily manifest in conflicting institutional procedures and student demands. Some of the more important obstacles that the Department of Technology and Cognition at UNT has found that need to be overcome or worked around include the following:

- student access to instructors,
- fixed class schedules,
- fixed academic terms,
- instructor willingness to participate in distributed learning activities,
- instructor and learner support,
- course rotation and advising,
- enrollment issues,
- tracking progress and degree plans, and
- support for initiatives that do not bring students, physically to campus.

These concerns and others parallel what Muilenburg and Berge (2001) report in a large-scale ($N = 2,504$), exploratory factor analysis that determined the underlying constructs that comprise barriers to distance education.¹

Distributed learning increases access and provides opportunities for different kinds of learning. However, there are known issues. Technical malfunctions can disrupt the best planned effort. Assessing student achievements in a virtual environment poses interesting problems and philosophical contemplation. The potential lack of a learning community, which often occurs naturally in traditional classroom environments, detracts from otherwise positive experiences (Moller, 1998).

As with any program that deals with technology, faculty and students still have problems accessing material due to equipment failures or software bugs. Students report that the technical problems as well as feelings of isolation are the biggest detractors to this format (Cereijo, Young, & Wilhelm, 2001). However, in spite of the problems, students indicate they still appreciate the opportunity to take courses in this format. They list advantages such as convenience, flexibility, ability to review material, multitasking, personal discipline, and the ability to interact with instructor and fellow students.

Administratively, online course have yet to become *truly* free of brick-and-mortar obligations. Like traditional students, the distant students still register for courses according to the format used in traditional environment. Students trying to resolve financial support prob-

lems still must come to campus to personally talk to university personnel. Grades are still due the Monday after finals are finished, restricting flexibility with student achievement. Course delivery is still judged by the number of clock hours rather than student completion of specified outcomes. The University of North Texas is installing a new administrative computer system that should improve distance access, streamline the process for the distant student, and remove many of these existing barriers. We are also migrating to the new incarnation of WebCT known as *Vista*. *Vista* promises a more robust online learning environment for the distant student and a broader range of options for implementation, integration, and customization of the e-learning environment for the university and the students.

The Department of Technology and Cognition offers over 100 Internet courses. Interestingly, a significant majority of students enrolling in these classes still live within commuting distance of the university campus. The upside to this is that many courses benefit from some on-campus meetings. Students particularly enjoy those Internet courses that are not 100% online. The opportunity of coming to campus periodically to meet with the instructor and other students has significant attraction. Some faculty prefer to have at least one orientation meeting where they can meet the students and answer questions relative to the content, delivery, and schedule.

Providing this option to students requires that some classes be offered as both 100% Internet and companion sections that are less than 100% Internet. Since section numbers differentiate between the two types of classes, this can be done as long as there are sufficient students in both sections to meet university enrollment requirements. To facilitate these students, classes may be scheduled to meet Friday evenings and Saturdays, increasing the time allocated for specific functions.

Some courses that, because of their content, make 100% Internet delivery very difficult or impossible can still benefit from partial Inter-

net delivery. One possibility that is very attractive to local students is a course that meets every other week on campus and alternating weeks via the Internet. This option is equally attractive administratively because of the high demand on classroom space. One plausible option is to schedule two classes in the same classroom, alternating the meeting times. This would enable a student to travel to campus, as if taking a traditional course, but be able to complete two courses in the same time period.

While this configuration makes sense, it is difficult to implement with the current classroom scheduling procedures. Any course that requires one or more meetings must be scheduled for the entire semester, preventing a second course from being scheduled in the same room on alternate weeks. Similarly, a course with one mandatory meeting will be scheduled in the classroom for the entire semester. Issues such as these, while simple on the surface, are often hard to resolve at the administrative level.

Other administrative problems that are currently being studied involve faculty workload and accessibility. Faculty members are expected to maintain office hours, for the purpose of meeting with students. While informing students when faculty would be available in their office is useful to traditional students, online students need access to faculty electronically. Faculty members often hold "virtual" office hours and have agreed to set an expectation of responding to student electronic queries (mainly e-mail) within 48 hours, excluding weekends.

Finally, there are issues of maintaining course content. Once a course is approved and developed as an online course, it is more difficult to update than a traditional course where faculty are constantly interacting with students, discussing and explaining course content. As it takes a disciplined student to succeed in an online course (Jonassen, 1993), so it also takes disciplined faculty and an appropriate administrative structure to ensure that the Internet course continues to offer each

student the best opportunity to acquire the knowledge and skills specified in the course.

CONCLUSION

Jonassen (1993) wisely warns that without careful planning and consideration, computer-based education runs the risk of “falling into the academic pit that is filled with so many other panaceas for learning” (p. 231). The Department of Technology and Cognition’s system is not perfect, but we are committed to building a strong distance education program where online learning is engaging and personal.

To that end, almost every faculty member in the department is currently providing course content electronically to students. Our department has done much to address design issues and issues of content delivery. We have worked with faculty on concerns such as salary, workload, and tenure. We strive to secure faculty participation in all aspects of the distance education program. We have a system that makes training available to faculty, staff, and students as well as a separate department (CDL) to provide timely assistance and support. We seek to be sensitive to the needs of the distance student and are open to change.

If the past is any indicator, the demand for distance education will only continue to grow and quickly at that. Therefore, it is incumbent on universities to keep pace with the changes and do the best they can to offer a dynamic, interactive learning environment that can meaningfully engage the learner at a distance while not alienating the faculty or the traditional student.

NOTE

1. The 10 factors found were (1) administrative structure, (2) organizational change, (3) technical expertise, (4) social interaction and quality, (5) faculty compensation and time, (6) threat of technology, (7) legal issues, (8) evaluation/

effectiveness, (9) access, and (10) student-support services

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