Distance Learning, Access, and Opportunity: Equality and E-Quality

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Abstract

Metropolitan universities must forge partnerships with other educational institutions and utilize the latest technologies to provide equality in educational access for nontraditional learners. The University of South Florida uses varied types and combinations of distance learning technologies to provide access to quality educational programs for its diverse student population.

Distance Learning as a Strategy for Educational Access

In the final report issued by the Kellogg Commission on the Future of State and Land-Grant Universities, seven commitments were identified as essential to renew the partnership between the American people and public higher education. The first commitment is to equal educational opportunity through access "to as much education as possible, for as many students as possible" (Kellogg 2000). Three primary strategies are identified as means of ensuring equal opportunity:

1. Develop partnerships between higher education and elementary and secondary school leaders to support educational reform and prepare students for postsecondary education;
2. Develop partnerships with community colleges and public/private two- and four-year institutions to guarantee access to all qualified students, regardless of demographic characteristics or geography; and,
3. "Employ the latest technologies and 'distance-learning' techniques to make sure that students who are isolated, home-bound, or tied down by obligations to families or employers, can pursue the dream of a college education, and have access to lifelong learning for personal enrichment and career development," (Kellogg, 9).

The third strategy recommended by the Kellogg Commission—using distance learning to extend educational opportunities beyond the physical expanse of the campus—is the focus of this article.

Nontraditional Students as Traditional Distance Learners

Characteristics of nontraditional students closely parallel typical distance learner profiles, particularly in terms of age and enrollment status. In this context, "nontraditional" may include: (1) students older than the 18-24 year-olds moving directly from high school to college; (2) those with time and/or place constraints limiting their access to traditionally scheduled campus-based classrooms; (3) part-time students with full-time commitments at work and at home; (4) intermittent students who alternate participation in school and work, "earning to learn" as they finance their own educational pursuits; and (5) those who enroll as part-time students at more than one institution simultaneously, taking advantage of inter-institutional common course numbering, articulation and transfer agreements. As confirmed in a recent analysis by The College

Board, "For growing numbers of students, the postsecondary experience is no longer a straight shot" (Gladieux and Swail 1999, 11).

The diverse student population served by metropolitan universities may more closely resemble the "traditional distance learner" than students in other types of institutions, with little discernible difference between the profile of the overall student body and the distance learners. For example, student enrollment data for the Fall 1998 semester at the University of South Florida reported the average age of students enrolled in undergraduate courses as 25, and the average age of graduate students as 34, with part-time students outnumbering full-time students. During the same semester, more than 61 percent of students enrolled in distance learning courses were age 25 or older, with more than one-half enrolled on a part-time basis. The similarity between the age and enrollment status of students in campus-based classes and distance learning reflects the university's strong institutional history of serving "nontraditional" students and its commitment to outreach that is woven into the fabric of metropolitan universities and is representative of the contemporary call for university-community engagement. A national survey of metropolitan universities is currently under way to determine if this similarity in student profile, in terms of age and enrollment status, is replicated elsewhere.

Distance learning, which transcends traditional barriers of time and place, provides access for the expanding pool of nontraditional students seeking a college education or a post-graduate continuing professional education in ways that conventional campus-based courses simply cannot. Classroom-based instruction can incorporate flexible educational pathways for students through individualized instruction, learning centers, and other alternatives; however, even the most innovative classroom instructor still has to contend with the dimensions of time and place. Flexibility in path and pace, as well as time and place, can be more readily achieved through distance and distributed learning. In Florida, students can take advantage of a statewide network of more than 100 educational, community, and corporate instructional sites.

In a survey of students enrolled in distance learning courses at USF during the Fall 1998 semester, the reason most frequently identified for enrolling in distance learning courses was schedule conflicts with on-campus courses. For these students time is an important factor and distance learning provides the scheduling flexibility they need. Geography came in second, with convenient location being the next most frequently cited reason for enrolling in distance education courses. In sparsely populated regions, traveling 60 miles may take 60 minutes or less; however, during rush hour on congested urban highways, a few miles makes a significant difference in travel time, exacerbating the impact of place on the dimension of time. Metropolitan universities adopting creative approaches to course design and delivery can demonstrate their responsiveness to time-pressed and place-bound adult learners by incorporating alternative scheduling, multiple sites, flexible formats, and a combination of synchronous and asynchronous learning into the instructional choices provided for their students.

Asynchronous Distance Learning: Any Time, Any Place

Asynchronous learning includes time- and place-independent models of distance learning, commonly referred to as "anytime, anyplace" learning. Synchronous learning includes time- and/or place-dependent models of distance education, including "same time, same place" and "same time, some place" learning opportunities.

Print-based independent study is one of the earliest forms of asynchronous distance learning. In keeping with their university-based administration, these programs tend to have higher levels of student-instructor interaction, greater use of supplemental media, and more restrictive access than their commercial counterparts offering correspondence training (Moore and Kearsley 1996). Student-instructor interaction has changed as technology has advanced, with increasing use of the telephone, overnight mail, fax machine, and the Internet speeding up the interaction and feedback loops where possible, while maintaining the foundation of slower, yet reliable and accessible systems where needed. Independent study as it is organized today uses any or all of these systems, and may be print-based, electronic, or mixed.

Telecourses are professionally produced instructional programs with supplemental instructional materials and learner guides for self-study. The Annenberg/Corporation for Public Broadcasting project, initiated in 1981 with a $150 million grant to improve higher education through telecommunications, and the Adult Learning Services of the Public Broadcasting Service have a well-established record of accomplishment in this type of asynchronous distance learning. In 1992 nearly 96 percent of the nation's public television stations broadcast courses for more than 2,000 two- and four-year colleges (Moore and Kearsley, 1996). Channel surfers may be surprised to learn that these programs are part of "school" for hundreds of thousands of students. Faculty add their own components, treating the video and accompanying materials as an instructional floor, rather than a ceiling. Digital TV has the potential to transform this one-way medium into an interactive experience that goes beyond throwing things at your set when your team loses, or yelling out the answers before the contestants on quiz shows. USF has offered telecourses for more than 30 years, with more than one-third now incorporating Web-based components, and the first pilot projects for interactive television planned for the 2000-20001 academic year. The flexibility of "anytime, anyplace" learning via TV and the Web combines with teacher-led review sessions (taped to accommodate schedule conflicts) and on-site, proctored assessment, traditional components of "same time, same place" learning, for a blended approach.

Online learning, using the expanding capabilities of personal computers, the Internet and the World Wide Web, has rates of growth reflecting the warp speed of Internet companies careening through the i-world from idea to market to IPO. The 1998 Higher Education Act Amendments established the U.S. Department of Education's LAAP (Learning Anytime, Anyplace Partnership) program with $10 million in funding during 1999-2000 to enhance the quality, delivery and accountability of postsecondary education by developing innovative technology-enhanced programs. Approximately 25 awards of $100,000 to $500,000 were anticipated during year one, with the second round of proposals already under review. The Pew Charitable Trusts' Learning and Technology Program, an $8.8 million, four-year initiative launched in 1999, provides grants to colleges and universities to support the redesign of existing courses for cost efficiencies and quality enhancements. Asynchronous discussion groups promote teacher-student and student-student interaction, earning praise from students with quite different interaction and communication styles. For example, students who are reluctant to speak out in face-to-face group settings, preferring to process what they hear from others and collect their thoughts before participating, value the added response time in online forum interactions. Students who speak early and often in the conventional classroom report taking greater care in crafting their online comments, cognizant of the

electronic record they are creating. This delayed response leads to more reflection on their part and more useful commentary by their classmates. Although online learning can be synchronous, using video/audio streaming, dynamic Web applications, and chat rooms for "real time" interaction, higher education coursework available today is predominantly asynchronous "anytime, anyplace" learning.

Synchronous Distance Learning: Same Time, *Some* Place

The conventional version of synchronous learning can be described as "same time, same place" instruction, with students convening at designated times in on-campus classrooms. In a modification initially intended to address the needs of place-bound students, the advent of satellite, Instructional Television Fixed Service (ITFS), micro-wave, and wireless networks facilitated synchronous distance learning better described as "same time, *some* place" learning. This offshoot of the traditional classroom approach uses technology to bridge the distance between groups of students at multiple locations for a shared educational experience, eliminating the need for students to travel to a single classroom. Multiple student and instructor locations are identified and connected by technological means to provide more convenient access for off-campus students. Two types of distance learning systems are primarily used to support these group-based, synchronous instructional models: one-way video/two-way audio environments and fully interactive video-conferencing classrooms.

Traditional studio models typically emphasize a dissemination approach, similar to a lecture hall on campus. Live video of the instructor is beamed to multiple receive[receptor?] sites, in real time or on a tape-delayed basis, with interaction between the students and the instructor facilitated by audio technologies. Determined instructors, particularly when supported by more flexible physical and technological environments, can incorporate student-student interaction and impressive degrees of student-instructor interaction into these predominantly didactic systems.

Fully interactive video and audio classrooms, such as video conferencing, add real-time student-instructor and student-student interaction into the synchronous distance learning experience. Using telephone lines, high speed connections, or Internet-based protocols, these systems facilitate active, collaborative, group-based instructional strategies more readily than the studio environment; however, the maximization of the interactive capabilities of the equipment and systems is determined by the pedagogical choices of the instructor. Just as the much maligned "talking head" environment can be modified for more interactivity, so can the interactive capabilities allow everyone to see themselves and their counterparts at other locations sit quietly and listen to the instructor.

USF's network of more than 100 educational, corporate, and community-based instructional sites employing these synchronous distance learning systems primarily support graduate professional education for engineers, health care professionals, and teachers. This instructional site network demonstrates the partnership strategies envisioned by the Kellogg Commission to ensure seamless educational access and lifelong learning by joining elementary and secondary schools, community colleges, universities, and the private sector. The distribution of the network, including corporate locations fewer than 10 miles from the largest USF campus and a cohort at a Venezuelan university, adds new meaning to the definition of community as defined by metropolitan universities.

Computing applications such as chat rooms, desktop video conferencing, and video/audio streaming technologies, facilitate online synchronous distance or distributed learning. Internet2 and high-speed telecommunications networks support voice/video/data exchange between individuals using personal computers with inexpensive video-conferencing cameras perched on their monitors and groups using IP-based video-conferencing systems, thus avoiding long-distance charges from telecommunications providers. Various proprietary software products support sophisticated desktop video conferencing, which, among other things, allows students logged on to synchronous electronic classrooms to "raise their hand" by means of an icon that appears to let the instructor know you have a question. These synchronous learning systems require a degree and speed of access that is not yet as readily available as standard Internet connectivity. Although their popularity continues to grow with the convergence of voice, video, and data technologies and the expansion of high-speed connections for individual consumers, these forms of synchronous distance learning are still more of an innovation than a routine for most educational audiences. To avoid the pitfall of technology becoming "a new engine of inequality," access must be more broadly defined to include effective use, teacher training, and careful integration (Gladieux and Swail, 20).

Access as a Necessary, but Insufficient Measure of Opportunity

Distance and distributed learning technologies have expanded access to higher education, providing options for formal study that complement or replace more traditional means. Indicative of the appreciation of students, particularly part-time adult learners, for these expanded choices, are testimonials to the critical role distance learning has played in their ability to pursue their educational dreams and reach their goals. Students enrolled in distance learning courses go to great lengths to register their dependence on the range of distance options available to them, poignantly making the point that they could not have enrolled without these options. These experiences have been documented through regular surveys of students enrolled in distance learning courses at USF, and are most certainly replicated at other institutions with successful distance learning programs. Course evaluations provide another opportunity for student feedback, many going well beyond the requisite Likert-scale ratings to include eloquent, personalized, and sometimes emotional expressions of gratitude for the doors that have been opened for them by the flexibility of distance learning.

Despite the critical role of distance learning in providing educational access, the questions of the nature of that access and the extent to which it provides equality of educational opportunity remain unanswered for many distance learning skeptics and supporters. The Institute for Higher Education Policy conducted a review of distance learning research to determine what we know from studies in the field and to identify the gaps to be filled by future researchers (Phipps and Merisotis 1999). One of the implications gleaned from the existing research, as described in the IHEP report, is that "the notion of 'access to college' in the distance learning context is unclear" (7). Despite the suggestion by some that access is a *raison d'être* for the proliferation of distance education, the authors contend that access alone is insufficient reason to move away from "bricks and mortar" learning, and that the *quality* of the access should be the focal point for the discussion.

E-Quality: Using Technology Wisely and Well

The Council for Higher Education Accreditation (CHEA) issued a report characterizing distance learning as a series of challenges to the core academic values of higher education and their relationship to the traditional measures of quality within the higher education enterprise (Eaton 2000). How will these relationships be redefined? What measures of quality will be agreed upon by the academy, the accreditation bodies, and the faculty, students, and support teams engaged in postsecondary distance learning? To realize the potential for equality of educational opportunity, technology must be used wisely and well to ensure that e-quality awaits those who walk through the open door.

Using technology wisely means making informed choices, considering the students, the faculty, and the content in each potential distance learning experience, as well as the nature of the interactions—student-faculty, student-student, and student-content—in the teaching and learning process. Technology is not a mountain to be climbed simply because it is there. Technology supports sound pedagogy and makes possible some instructional experiences that would otherwise be difficult to include. Virtual field trips, simulations, "safe" labs, real time interactions with people around the world or across the campus, and time-shifted asynchronous learning opportunities are examples of technology-assisted contributions to conventional classroom experiences. The value of these contributions is not inherent in the technology, but rather stems from their selective utilization.

Using technology well takes up where the selection process leaves off, requiring proficiency among the various users, supported by comprehensive institutional infrastructures. In this sense, infrastructure does not just include the wires, cables, networks, hardware, software, and "things" that rapidly consume university technology budgets in mind-boggling proportion. Nor does it include only the technical professionals who operate and maintain the things that keep the networks connected and communicating on behalf of their users. It includes the people who use the technology in their own teaching and learning and the faculty development, instructional design, and curriculum professionals who support that use and ensure that faculty and students have an expanding repertoire of teaching and technology skills at their disposal.

Officials at the Pentagon and within the headquarters of the major branches of the military recently restricted the use of computerized presentation programs after tiring of presentations enhanced by graphics, sound, animations, and color-coding that did little in the way of perceived overall information gain. In untrained or overly ambitious hands, presentation programs are an example of a potentially useful application gone awry. When overhead transparencies and slides were predominant in the classroom and the conference room, there was ample evidence that their overall use far exceeded their skilled use. Examples of ineffective overheads that were poorly organized or executed, with too many words on a line, too many lines on a page, and font sizes too small to be read were abundant. Converting these ineffective transparencies to computer-generated presentation programs does not transform them into effective instructional aids. At times, it appears that the proliferation of presentation programs and "how to" sessions has actually done more harm than good in advancing technology in teaching and learning, because of the potential for template abusers to perceive themselves as instructional innovators. Training sessions demonstrating how to produce these instructional aids must extend beyond ease of use, to include the presentation and design basics that enable us to use them well.

Eclectic Learning Opportunities for Nontraditional Students

Nontraditional students are known to be demanding and discerning consumers of educational programs. They bring life experiences into the online or on-campus classroom, and expect their learning to have meaningful connections to the rest of their world. They lose patience quickly with educational programs they perceive as wasting their time and money; they are searching for opportunities to integrate their studies with their personal and professional lives. Metropolitan universities serving proportionately greater numbers of adult learners are accustomed to considering student needs in institutional decision making and are well positioned to meet emerging standards of e-quality.

The combination of site-based and technology-based learning is projected by CHEA to be the predominant application of technology to teaching and learning in the "foreseeable future" (Eaton 2000, 7). Nontraditional students are likely candidates for the mix and match blend of residential and distance learning, relying on increasingly personalized hybrids of clicks and mortar or bricks and bytes. This mixed mode approach is already evident in Florida's postsecondary institutions participating in the statewide Florida Virtual Campus (FVC). Data reviewed by the FVC design team indicated that approximately 70 percent of the more than 60,000 students in distance learning courses offered by the state's 38 public higher education institutions (28 community colleges and 10 universities) were also enrolled in conventional campus-based courses (FVC 1999). For many, this is a forced integration of delivery systems, with few complete degree sequences offered at the undergraduate level. For others, it is a matter of choice as they selectively combine alternatives of time, place, delivery system and format to create a convenient, productive and rewarding educational program.

As a means of assessing students' reasons for enrolling in residential or online instruction, I taught two sections of the same graduate education course during the Spring 2000 semester, on the subject of distance learning. One was offered in a traditional evening format, meeting on campus once each week for three hours, over a 15-week semester. The other was offered entirely online, with no required in-person sessions. Online students were invited to participate in any campus sessions they chose, and on-campus students were encouraged to contribute to online discussions. Two students switched their participation from the campus to the online section during the semester, and one switched from the online to the campus session. Searching for a way to demonstrate synchronous video-based distance learning to the online group, I was fortunate to find a sympathetic colleague at another institution (Syracuse University). Our classes were joined by interactive video conferencing for a hands-on experience with this form of synchronous distance learning. Some of my online students joined the on-campus class to participate directly, with others precluded from doing so by time, place, or other variables. The video-conferencing sessions were recorded, the tapes were digitized, and then made available through a netcast for those who were unable to participate in person. This was followed by an asynchronous, online discussion focusing on the digital divide, providing one example of blending variations of time- and place-dependent technologies within a single course.

Synchronicity and Scheduling for Nontraditional Students

Synchronous, multi-site distance learning is particularly appealing to part-time adult learners pursuing graduate degrees, since the concept of the workplace as an instructional site is consistent with the employee educational benefits offered by many businesses as a means of retaining and retraining their employees. A cohort model, with a group of students entering the program at the same time and proceeding in a predetermined educational path together until they complete the program, may be adopted. Advantages of a cohort model include a built-in support system to keep students motivated and on track as they pursue a shared educational goal. The more structured educational plan enables students to incorporate their academic schedules into their work and personal calendars with greater consistency because they have advance knowledge of the total time commitment required to reach their goals. Disadvantages of a cohort model include the predetermined calendar, relative inflexibility of curriculum and sequence, and the potential for the support group to become somewhat stale in their perspectives, lacking the infusion of new members over the life of a degree program.

Alternative calendar scheduling such as alternate weekend classes, with an entire semester's work condensed into four weekends within an eight-week period, or Saturday-only executive MBA or other professional graduate programs may be combined with distance learning and cohort models for greater flexibility of both time and place. Once the schedule is determined, however, less flexibility exists to accommodate unanticipated changes in individual schedules. When combined with a cohort model, the lockstep nature of the plan can clash with office deadlines, business travel, and family emergencies that wreak havoc on students' abilities to keep up with their group. When each class meeting is the equivalent of two weeks of traditional classes, as is the case with some alternate weekend time-compressed courses, missing just one weekend is the equivalent of being out for a month during a traditional 15-week semester.

Combining distance learning technologies with time-compressed courses can facilitate individual student progress within a group-based model, even when cohorts and alternative scheduling are utilized. In one example, a student in an 18-month weekend-only graduate program was transferred to another part of the country. His company assumed the cost of the connectivity between his new home and his former class location, so he could join the group by desktop video conferencing for the discussion portions of the class, view tapes of the lecture portions, and complete group projects online, using collaborative software applications. In another instance, one-way video/two-way audio classes in a traditional studio environment were taped as they were broadcast to the statewide network of instructional sites. The tapes were then digitized and made available over the Internet, enabling the road warriors in the group to keep up during their business travels by logging in from their laptops to review the week's session and participate in asynchronous online discussions supplementing the classroom interactions.

Routes and Roots: Access and Opportunity

Implementing the strategies for developing partnerships and utilizing distance learning technologies to create the educational access and opportunity recommended by the Kellogg Commission will come naturally to many metropolitan universities that have grown and matured along with their communities. Some will travel only short distances over quite familiar territory to return to their roots, while others may have longer journeys ahead of them. In either instance, the tradition of serving nontraditional students, the historic commitment to communities and outreach, and the responsiveness to changing needs and capacities should serve metropolitan universities well in the future.

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