Distance Technology: A National Study of Graduate Higher Education Programs

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Abstract

Distance technology continues to impact programs and teaching in higher education institutions. New delivery methods, new administrative structures and the creation of new institutions are a result of the developing technology. This study examined the current distance education practices of graduate level Higher Education Programs in the United States. Specifically examined were delivery methods, sources of funding, and faculty workload and compensation as they relate to distance education.

Introduction

Distance education has emerged as an important segment in the higher education arena (National Center for Education Statistics, 1998). This is evidenced by the proliferation of "virtual campus" consortia that are now found in every region of the country. In California, eighty-one institutions offer over 700 courses through the California Virtual University. In Texas, institutions have a variety of options for participation in distance delivery. The Southwest Center for the Advancement of Technical Education (SCATE) system provides an interactive television (TV) connection for six community colleges and their multiple campuses, the Texas State Technical College sites, and five, four-year institutions. The Southern Regional Electronic Campus is another option with institutions in 15 states participating in TV and internet courses.

The Chronicle of Higher Education (Sept. 25, 1998, p.A-37) reported these "virtual universities" vary in structure consisting of everything from fully accredited institutions to World Wide Web sites. For example, the University of Phoenix, chartered in 1978, has experienced phenomenal growth. It markets to an adult population that is interested in bachelor degree completion programs and master's degree level work in Business, Nursing, and Education. The University of

Phoenix provides an opportunity for those already in the workforce to continue their employment while simultaneously completing a degree. Whether through consortiums, newly created "virtual universities" or individual faculty initiative, courses are being offered in diverse fields such as engineering, history, and education. The commonality among these national, regional, and statewide consortia and in the singular institution is the desire to provide access to a wider range of programs and courses to a larger proportion of the student population.

A change in student lifestyles has necessitated the balancing of the demands of work, family, and school. For these students and for workers needing retraining, nontraditional forms of access to coursework or degree programs are desirable. Current and future students will increasingly select institutions that can offer quality programs, and equally important, provide courses that will meet their active schedules. Advancements in technology have presented a myriad of delivery options for distance education. This, combined with an ever-growing, consumer-oriented student population, presents a challenge to colleges and universities.

Purpose of the Study

Most of the current literature on distance education focuses on a broader picture of undergraduate institutional participation (Marchese, 1998) and not on specific degree course offerings. While traditionally undergraduate programs in areas such as Business and Bachelor-completion programs have been highlighted, a 1996 study examined graduate HEP faculty participation in distance education (Brown-Wright, 1996). Specifically the 1996 research focused on utilization and incentives used to encourage the use of technology in the delivery of instruction. There are now approximately 150 higher education programs in the country that are designed to prepare master and doctoral students for a variety of careers in college administration (Association for the Study of Higher Education, 1996). The purpose of this study was to update information and expand on the earlier HEP research by including an examination of the types of delivery methods used, workload for those who teach higher education distance courses, sources of funding for distance courses, and the level of faculty who teach distance courses.

Definitions

Distance education has been characterized in numerous ways. Garrison and Shale (1987) argue that it must include technology that is synchronous and mediates two-way conversation for the purpose of advancing the educational process. Moore (1990) expands the characterization to include instruction through any type of electronic communication or print media. In this case, electronic communication includes asynchronous options such as e-mail, threaded discussions, listservs, and video. Print refers to multimedia materials that can be accessed via the World Wide Web. Each agrees that distance education involves the physical separation of faculty and student throughout most of the learning process. An additional example of distance delivery includes faculty who travel to distance sites. For the purpose of this study, distance education was defined as the delivery of instruction through all of the various forms of electronic media as well as the transportation of faculty to distance sites.

Method

This study utilized a survey research design. The purpose of the study was to examine the use of distance education by graduate level Higher Education Programs. An eighteen-item instrument was developed to gather data on basic demographics of the institution, participation in and funding of distance education, and methods of delivery of distance courses.

During May of 1998, 148 surveys were mailed to the program director/coordinators of Higher Education Programs (HEPs) in the United States. The source of information for the HEPs was a list of programs compiled by the Association for the Study of Higher Education (ASHE) (1996) Council for the Advancement of Standards (CAHEP). ASHE is a national organization that is comprised of faculty and administrators who teach or work with Higher Education programs and is considered, along with the American Association for Higher Education (AAHE), to be one of the major professional associations involved in the study of postsecondary institutions. CAHEP is a council within ASHE that monitors and promotes program quality in Higher Education. CAHEP members identified 148 programs across the country. A cover letter, the survey instrument, and a stamped return envelope were mailed to the 148 program director/coordinators. The survey instruments were coded to insure anonymity. A second mailing was sent in June to all non-respondents of the first mailing.

Findings

Of the 148 survey instruments mailed, 86 were returned for a response rate of 58 percent. Program coordinators were asked to identify their institutional Carnegie Classification and institutional size. Table 1 provides a graphic representation of these demographic results.

Table 1. Demographics (n = 86)

Carnegie Classification	**# of Respondents**	**% of Respondents**
Research I	30	34.9
Research II	12	14.0
Doctoral I	18	20.9
Doctoral II	7	8.1
Master's I	10	11.6
Master's II	3	3.5
Missing	6	7.0
TOTALS	**86**	**100.0**
Institutional Size	15,000 and below:	38.1
	15,001 and above:	61.9

HEPs at Research I institutions had the highest response rate at 34.9 percent of the returned surveys, while Research II and Doctoral I and II comprised 14.0 percent, 20.9 percent, and 8.1 percent respectively. Master's I and II institutions comprised 11.6 and 3.5 percent of the respondents. There were six surveys returned that failed to respond to this question. Responding

institutions varied in size. The range was from under 10,000 to over 25,000. The majority of the institutions responding (61.9 percent) had student enrollment of over 15,001.
The response rate was less than hoped for at 58 percent, however, responses were received from most of the larger, more recognized programs. One might have expected a higher percentage of responses from Research I HEPs because they comprise the largest segment offering graduate degrees in Higher Education. In addition, student enrollment at these institutions tends to be higher than at Doctoral or Master's level institutions. As indicated in Table 1, twice as many respondents were from institutions that had a student headcount of over 15,001.

HEPs that offer distance education courses continue to be in the minority. Only 29.1 percent of survey respondents (25 of 86) indicated they utilized some form of distance education as part of their degree programs. On average, these 25 programs offered 3 courses during the academic year of 1997 - 1998. This was compared to an average of 19. 5 total courses offered in Higher Education Programs during the same time period. Enrollment in the 25 programs that offered distance education courses averaged 13 students per distance education course for this academic year.

It was discovered that the primary delivery method for distance courses in the responding HEPs was interactive TV (see Table 2). Sixty-four percent (16) of the 25 programs that offered distance courses did so through interactive TV. The next most mentioned form of distance delivery was faculty who travel to distance sites (18 percent or 4 of 25). Other methods utilized for distance education included Internet and World Wide Web (WWW) courses.

Table 2. Method of Distance Education Delivery by Carnegie Classification (n = 25)

Carnegie Classification	Interactive TV	WWW	Off-Campus	Other
Research I	7	0	2	1
Research II	2	1	0	0
Doctoral I	5	1	0	1
Doctoral II	1	1	1	0
Master's I	1	0	1	0
TOTALS	**16**	**3**	**4**	**2**

Distance Education delivered via the WWW was mostly used to deliver content geared toward the community college learner. Six institutions identified community college related courses as being offered via the Web. Five institutions offered Research and Design in Higher Education courses on the Web. Other courses taught on the Web included Foundations of Education, History of Education, and Finance in Higher Education.

Programs that offer distance education courses in higher education reported having on average 4.8 full-time tenured faculty and 6.9 adjunct/part-time faculty (see Table 3). The reported standard deviation for adjunct faculty represents the variability of the numbers reported. Program coordinators/directors reported a high of eighty-eight adjuncts to a low of zero instructing in the HEPs.

Table 3. Average Number of Faculty in the 25 HEPs That Offer Distance Coursework

Average # of Faculty	Mean	Standard Deviation
Full-time/ tenured track	4.8	4.2
Part-time/Adjunct	6.9	16.6

Results from the survey also indicated that full-time, tenured faculty were the ones most actively engaged in offering distance courses (see Table 4).

Table 4. Average Number of Faculty in the 25 HEPs Who Teach Distance Coursework

Average # of Faculty Teaching Distance Courses	Mean	Standard Deviation
Full-time/ tenured track	1.8	1.4
Part-time/Adjunct	.8	1.3

On average, 1.8 of the 4.8 full-time faculty offered distance courses. By comparison, an average of .8 of the 6.9 adjunct/part-time faculty taught distance courses.

The time involved in developing and delivering distance courses has brought the issue of additional faculty compensation to the forefront in some HEPs. The majority of the respondents offering distance courses (19 of 25 or 76%) indicated they nor their faculty received any additional compensation for teaching distance courses. Development and delivery of distance courses were considered part of the normal faculty workload. Those directors/coordinators that reported faculty compensation for delivering distance courses sited extra pay as the most common type of compensation received.

Funding for distance courses in this study was reported as coming primarily from institutional dollars (64%). Other sources included additional student fees and external grants.

Discussion

The number of graduate Higher Education programs offering distance education courses continues to be relatively small. Distance education courses were most cited in Higher Education programs that were housed at Research I institutions. Of the 25 Higher Education programs that reported utilizing distance delivery, 10 were at Research I institutions while 7 were at Doctoral I institutions. One problem with the response rates in this study was that the proportion responding in each Carnegie Classification does not reflect the true proportion of those programs in the total population of HEPs. This under or over representation of some of the HEPs limited the ability to generalize the findings to any one type of institutional program.

Interactive TV remains the dominant method of distance course delivery. In the study by Brown-Wright (1996), it was found that limited faculty time, knowledge of technology, and resources served as constraints to the implementation of various distance delivery methods. Teaching via interactive TV can be implemented without a dramatic change in faculty delivery methodology. In fact, one of the criticisms of interactive TV is that faculty simply become

talking heads (Garrison & Shale, 1987). However, interactive TV continues to be a viable method of delivering courses to students at a distance. Other methods of delivery mentioned in this study suggest that a few faculty are beginning to acquire the skills and knowledge necessary to implement other forms of technology-based instruction. Web-based instruction appeared to be in the early stages of formulation at several of the surveyed institutions.

Similar to the Brown-Wright study (1996), this study found that incentives to offer distance courses varied among institutions. The overwhelming majority reported distance courses as part of their regular load. For these individuals, institutions were not offering any type of release time, additional pay or clerical support. Faculty who participated in distance education did so because of a personal desire or to fill a need of the student population served. The lack of incentives may serve as another constraint in the implementation of distance education into graduate Higher Education programs. Only one director/coordinator reported incentives for his/her faculty in the form of additional pay and release time.

Higher Education faculty that offer distance education courses were predominantly full-time and tenured in this research study. The average number of full-time faculty who used distance delivery methodologies in their courses was 1.8. This was compared to an average of 4.8 full-time faculty in programs that offered distance courses. This represented over one-third of full-time faculty on the average implementing distance techniques into their Higher Education courses.

Conclusion

Traditional classroom instruction continues to be the principle method for delivery of graduate courses in Higher Education Programs. However, if these programs are to meet the needs of their new and continuing student constituents, the faculty must examine cost effective methods for providing greater access to our institutional programs, while maintaining quality student learning (Twigg, 1997; Hammonds, Jackson, DeGeorge, Morris, 1997).

The literature suggests there are both benefits and detriments associated with the use of technology and distance education. The benefits most often associated with distance education include: 1) time and place flexibility; 2) access to more resources; 3) increased learning and teaching strategies; and 4) individuation of learning (Niemi & Gooler, 1987). The challenges include: 1) cost; 2) equity of access; 3) faculty comfort in using the new technology; and 4) maintenance of quality instruction.

Higher Education Program faculty, as well as other graduate and undergraduate faculty, must examine both the challenges and the benefits of distance education to better respond to changing student lifestyles and demographics. This study and its findings show how some graduate faculty members are responding to the challenge in a specific graduate degree program area.

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Online Journal of Distance Learning Administration, Volume II, Number III, Fall1999
State University of West Georgia, Distance Education

Back to Journal of Distance Learning Administration Content