
Concerns of Instructors Delivering Distance Learning via the WWW

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ABSTRACT

The top-down pressures that are mandating the delivery of web-based distance education courses are creating a problem because the responsibility for developing and delivering these courses is bottom-up and has fallen on the shoulders of unprepared University faculty members. In response to the political and market-place pressures, institutions must find a way to train and encourage more faculty to develop web-based courses. The experiences and concerns of faculty members who have already developed and taught a web-centered distance learning course have great value to administrators and other instructors following in their footsteps. To collect this data a survey was mailed to the 71 instructors who had a WWW course listed on the Southern Regional Electronic Campus (SREC) site for Spring 1998. Data about their perceptions, practices, concerns, and the institutional norms under which they work were collected.

The data collected from the survey yielded a prioritized list of faculty concerns and needs. Institutions must develop the infrastructure to provide: technical training, technical support, administrative support, time for faculty to develop and teach these courses, a revised faculty reward system, and reliable computer hardware. Faculty concerns about web-based distance education were universal and not significantly different based on the discipline (humanity, social science, science/tech, or business) or type of postsecondary institution (large university, regional university, community college or technical school, or correspondence studies). The delivery of distance education on the WWW has great potential that can not be realized until the needs and concerns of the faculty that will develop the courses are met.

Background

There are many factors mandating the delivery of distance learning on the WWW (World Wide Web): school restructuring, the Federal government's commitment to the development of the NII (National Information Infrastructure) as well as the connection of every classroom to the Internet, and the creation of virtual universities by state governments. However, these top-down pressures are creating a problem because the responsibility for developing and delivering web based distance learning courses is bottom-up and has fallen on

the shoulders of unprepared University faculty members.

In response to the political and market-place pressures, institutions must find a way to train and encourage more faculty to develop web-based courses. In order to develop effective training and support programs for these faculty members, researchers should first assess the experiences and concerns of the pioneering faculty members who have already developed and taught a web-centered distance learning course. The experiences of the early-adopters have great value to administrators and other instructors following in their footsteps.

Forces outside of the university and university administrators "express hope and expectation that digital technology will improve higher education and make it more cost effective" (DeSieno, 1995, p. 1). However, faculty members are not currently incorporating technology into their existing courses. In a recent study by the University of Southern California, "less than 5 percent of college and university faculty use computing to aid classroom instruction or enrich student learning" (DeSieno, p. 1). Why? The learning curve is steep, there is limited technical support, and there is no direct reward or motivation for the faculty member to make the effort to incorporate computer technology into a course. This type of activity rarely counts toward promotion and tenure.

A national survey of higher education institutions (National Center for Educational Statistics, 1997) reported that a third of higher education institutions offered distance education courses in fall 1995 and another quarter planned to offer such courses in the next 3 years. An estimated 25,730 distance education courses were offered in fall 1995 to 753,640 formally enrolled students. Two-thirds of these courses were developed by the institution's subject area departments or schools. (National Center for Educational Statistics, 1997, p. 4). These facts point to a very serious situation. The plans to offer distance education courses are increasing dramatically. These plans are top-down mandates from government and university administrators. The actual development of DE web courses is being left to classroom faculty. Course development is bottom-up. If distance education is to be successful institutions must provide instructors with administrative and technical support as well as incentives to develop the courses.

Elrod and Kelly (1998) discussed the issues facing faculty members. These included: the impact of DE on workload, the changing role of the teacher, the quality of instruction, evaluation of faculty performance, and intellectual property rights.

The added workload, even with added resources, is probably among the toughest issues in DL, because the load is ultimately on the person on the firing line, the faculty member. Usually there is no recognition for the extra effort needed to teach in this format, meaning it doesn't contribute to promotion and tenure decisions. Further, spending time in developing DL courses can even be so demanding on junior faculty members as to detract from their ability to be competitive. If the faculty are to embrace distance education, the administration must consistently address traditional faculty issues with fresh ideas and innovative approaches. (Sherron, 1998, p. 47)

Gabany (1996) conducted an on-line survey of 35 faculty members who were offering a full Internet course to study their experiences and determine if there were any development and implementation patterns. Thirty-two of the respondents reported doing all of the development work themselves. The least amount of development work reported was 85 percent. "Sufficient time to develop and maintain the course material was the most common concern, noted by 12 of the respondents" (Gabany, 1996, p. 5). The second leading

concern was support, both technical and administrative.

Sherry (1998) emphasizes the critical importance of teacher training to the success of distance education.

The ultimate success or failure of the distance education enterprise is inextricably tied to the enthusiasm and continuing support of the faculty. This support must begin with faculty training, as it is critical to the success of any distance education program. In fact, designing, creating, and implementing effective in-service training of the faculty is the most efficient pathway to the long-term success of distance education." (Sherron, 1998, p. 44)

Because instructional delivery on the Internet is such a new application, there is no existing body of research available. For the most part, journal articles address broad policy issues or are anecdotal, describing the implementation of a particular course. The few surveys that have been done are mainly concerned with quantifying the number of courses and the number of students. There is a need for basic research in the delivery of distance education on the Internet. A logical place to start is to survey the pioneering instructors who have developed and delivered a course on the WWW to learn from their experiences and identify their needs and concerns.

Research Questions

1. What are the needs and concerns of the instructors who have already developed web-based DE courses? A survey of the instructors can provide a snapshot of the needs and concerns of instructors who have developed and are currently teaching a distance education course delivered via the WWW.
2. Will instructors in different disciplines have different concerns?
3. Will instructors from different types of institutions have different concerns?

RESEARCH METHOD

Participants and Sampling Procedure

The Southern Regional Electronic Campus (SREC) maintains a registry of distance education courses that are being offered in 15 south-eastern states.

The sample for this study was limited to the instructors of the 77 WWW courses listed on the Southern Regional Electronic Campus (SREC) site for the Spring 1998 semester. This was the first semester of operation for the SREC. The instructors' names and mailing

addresses were obtained by following links from the SREC site back to the offering institutions. The 77 listed courses were being taught by 71 different instructors. Surveys were mailed to these instructors. Thirty six (50.7%) responses were received, but five courses were canceled or not offered during Spring 1998, leaving 31 (43.7%) usable surveys.

Background of the Southern Regional Electronic Campus

The Southern Regional Education Board (SREB) is a consortium of the educational leaders in 15 south-eastern states: Alabama, Arkansas, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia. Kentucky Governor Paul Patton is currently the chairman of the SREB. In 1974, the SREB established the Academic Common Market to allow students from one state to access "unique or uncommon programs" (SREB, 1997, p.1) in another state.

The Southern Regional Electronic Campus (SREC) is based on the Academic Common Market and grew out of the need for states to regulate and control distance learning programs from out-of-state institutions as well as in-state public and private institutions (SREB, 1997, p. 2). The 54 member institutions of the SREC must adhere to the SREC's "Principles of Good Practice" (SREC, 1997) and meet accreditation and licensing standards. Only public institutions were permitted to offer courses during the implementation phase of the SREC in 1998, but private institutions may begin listing courses for Spring 1999.

The SREC (SREC, 1998) was implemented in Spring 1998 with approximately 100 courses and will be expanded greatly for Fall 1998. The courses are delivered by a variety of electronic methods: CD-ROM, compressed video, computer-aided instruction, e-mail, interactive television, video tape, and WWW. Students may access the course database via the Internet at <http://www.srec.sreb.org>. Direct links connect a course listing to the host institution's home page and most course registration can be done on-line.

Research Design

The survey instrument was developed over a period of three months and explored areas grounded in the literature (DeSieno, 1995, Fagan, 1997, Gabany, 1996, Moore, 1997, Sherry, 1996). The survey contained a mixture of 5-point Likert type scale responses, structured questions, and open-ended questions. The researcher collected information about the attributes of the web course, course development issues, class management techniques, effectiveness of the course, instructor's concerns, and institutional climate. Some of the questions asked under attributes of the course were: typical enrollment, number of times offered, percentage of course on WWW, and on-line materials. Some of the questions asked under course development were about: percentage of the course that the instructor personally developed, training received, technical support, and incentives for developing, maintaining, and teaching the course. Some of the questions asked under class management techniques were about: communication tools used, the course calendar, on-line testing, and class meetings. Questions under effectiveness of the course were 5-point Likert type scale questions designed to measure student and teacher satisfaction with the course. Questions under concerns were 5-point Likert type scale questions designed to identify

instructors' concerns about delivering distance education on the WWW. Some of the questions asked under institutional climate were about: tenure, promotion, and administrative pressure to develop a web course.

The survey was field tested by three faculty members with knowledge of DE and experience offering DE on the Internet: a science professor, a psychology professor, and the director of instructional technology. Minor changes/modifications were made to the instrument. Based on peer review the survey instrument was determined to have face and content validity.

SPSS was used to generate frequencies and measures of central tendency for each of the fields. Because it had been hypothesized that instructors from various disciplines or types of institutions might have different concerns, chi-square tests were made to determine if there was a difference in instructors' concerns based on the discipline (humanity, social science, science/tech, or business) or type of postsecondary institution (large university, regional university, community college or technical school, or correspondence studies).

Results

The respondents formed a cross-section of postsecondary faculty. Their teaching fields were from various disciplines: 26% social science, 26% humanities, 35% scientific/technical, and 13% business. They also taught in a variety of types of institutions: 7% large universities, 58% regional universities, 32% community colleges or technical schools, and 3% correspondence studies.

The instructors surveyed represent an experienced, teaching faculty. They averaged 16.4 years of teaching experience with a range of 1 to 36 years. Sixteen of the 17 instructors, who were currently teaching in a tenure-track position, had already earned tenure. Their typical workload was broken down as follows: teaching 63%, research 8%, public service 11%, and other 18%. The "other" category was mostly administrative duties.

A convenient way to organize the survey data provided by these early-adopters is to report it around their major concerns. Chi-square tests were made to determine if there was a difference in instructors' concerns based on the discipline (humanity, social science, science/tech, or business) or type of postsecondary institution (large university, regional university, community college or technical school, or correspondence studies). The chi-square tests indicated that almost all differences were not statistically significant and that faculty concerns about web-based distance education were universal. The following table ranks the instructors' concerns in descending order.

Table 1

Concerns Ranked in Descending Order

(Measured on a 5 pt. Likert Scale 1 = Minor Concern 5 = Major Concern)

	Mean	Sd. Dev.	% Choosing 4 or 5
Sufficient time to develop and maintain course material	4.133	1.074	68%
Technical support	3.710	1.371	65%
Administrative support	3.613	1.383	48%
Sufficient time to interact with students	3.355	1.330	45%
Technical training	3.194	1.352	39%
Student familiarity with computers	3.194	1.108	39%
Equipment problems	3.097	1.274	45%
Academic honesty	2.968	1.378	32%
Necessary equipment available in faculty offices	2.903	2.535	32%
Student access to computers	2.867	1.224	16%
Web course design	2.839	1.241	36%
Student assessment/grading	2.733	1.230	29%
Intellectual property rights	2.700	1.489	32%

Sufficient Time to Develop and Maintain Course Material

As seen in Table 1, the instructors' number one concern was the necessary time to develop and maintain their courses. Sixty-eight percent of the teachers rated this a major concern. The respondents were critically aware of this problem because 81% of them personally developed at least 75% of their courses. A science/technology instructor observed, "It takes a lot of time and effort initially. Also faculty need proper training in online development (curriculum conversion)." A business instructor commented, "Need financial support and release time. Very time intensive."

The reported length of time required to develop a course was difficult to quantify. The amounts of time that developers reported were in different units of measurement and some represented full-time effort and others part-time effort. Seven instructors reported their effort in hours of full-time work. The development time ranged from 48 to 300+ hours with a mean of 152 hours. Four instructors reported the time in weeks, with a range of 5 to 6 weeks and a mean of 5.8 weeks. Fifteen instructors reported the time in months of part-time effort. The time ranged from 3 to 18 months with a mean of 6.6 months. Two instructors expressed the development time as "A lot!" and "More than I got paid for." No matter how it was measured, the development time was substantial.

Institutions have recognized the burden of course development for the WWW. Fifty-eight percent of the instructors surveyed received release time or financial incentive for developing the course. The most common incentive was release time. Nine (29%) instructors received a one course load reduction while developing the course. Nine (29%) instructors received financial compensation ranging from \$1,500 to \$11,000, with a mean of approximately \$3,600.

Few rewards exist for the time consuming task of maintaining the course. Only four instructors reported receiving any compensation. One received a one-time-only one-course load reduction, one was "discussing" the issue, and two, who were paid on a correspondence course model, received a small amount per student.

Eleven (35%) of the instructors reported receiving additional help or incentives for teaching the course. One was assigned a graduate assistant. Two received a one-course load reduction. Two were paid a lump sum, \$2,500 and \$3,500, for teaching the course. Six were paid per student enrolled or lesson graded.

Technical Support/Technical Training

Technical support and technical training ranked among the top five concerns. 65% of the instructors rated technical support a major problem despite the fact that 67% of the instructors reported having a department on campus to assist in the technical development of a web course. Only two instructors commented that their support department was "excellent" or would help with "any need". The following is a typical comment: "Lack of technical support staff. I am responsible for all maintenance."

There is a problem matching faculty needs with technical support services. Why? This area requires further study. The instructors were aware that technical support services existed but they were not taking advantage of the services, had difficulty accessing the services, or the services were inadequate.

Technical training was also reported to be inadequate. Sixty-one percent of the instructors surveyed received no training in web-course development and only four instructors, out of the 12 who had received any training, reported that the training was adequate. A social science instructor commented, "[I attended] conference sessions and workshops [and did a] tremendous amount of reading. Didn't "receive" training - got it myself."

Administrative Support

Administrative support ranked third as a major concern. Administrative support encompasses such issues as the institutional climate for distance education, and promotion/tenure. The SREC WWW distance education courses were being taught by curriculum pioneers. Forty-four percent of the courses were taught for the first time in Spring 1998 and 84% of the courses were taught three or fewer times. Only two instructors reported that they felt administrative pressure to develop web courses. The spirit of the pioneering instructor was expressed in the following comment: "[I] decided to join the computer age & enhance [my] skills vs. going for early retirement or being left behind."

However, not all comments were positive. The administration has expressed its commitment to distance education, but often the supporting institutional infrastructure has not yet been created. A regional university instructor complained, "The institutional climate is good. The department climate stinks. This university has made a commitment to distance education, but most of my colleagues are

resisting. I am a renegade!" A community college instructor commented, "There are a lot of unanswered questions about web-based courses at our school. I did the course because I am interested in it - not because of financial support or administrative pressure."

Concerns about capping course enrollment and compensation for teaching large classes were often expressed. The following comments were from instructors at regional universities:

Concern - allowing too many to enroll. Administrative folk want to enroll large number[s] in web course.

Some administrators see only the potential cost savings, not the opportunity to do more and better teaching.

Faculty members generally support the concept of using technology to improve instruction, but using technology to reduce costs is a volatile political concern. They argue that reducing costs with the aid of technology "translates into reducing the number of faculty members and increasing student-faculty ratios" (DeSieno, p. 2). Teaching is not a mechanical process that can be delivered without human interaction.

However, evidence of large enrollments was not supported by the data gathered. The class sizes ranged from 2 - 150. The median class size was 21 and only one course enrolled more than 30 students.

Forty-eight percent of the instructors reported that developing and teaching a WWW course did not count toward promotion or tenure and an additional 26% reported that they did not know if it counted. There can be little incentive to develop a WWW course if it does not count in faculty productivity.

Nowhere are the challenges more pivotal than in the area of institutional support for faculty. Faculty members and administrators must work together in identifying and resolving the issues that inhibit systematic use of distance education in meeting academic goals.

Sufficient Time to Interact with Students

Sufficient time to interact with students was ranked as a major concern by 45% of the instructors surveyed. This issue is closely related to the changing role of the instructor in distance education. The teacher becomes a mentor rather than a sage and directs student learning. This requires frequent communication with the students. The most common communication mediums cited in the survey were: e-mail, fax, listserv, bulletin board, chat room, phone, and postal service. The following comment emphasizes the time requirements of teaching on-line:

With being on-line, I have to keep constant contact with the class to make sure that they are on schedule. Some of them are doing well, others are not due to the lack of responsibility on their part. Grading is taking a great deal of effort since it is done on computer.

Student Familiarity with Computers/Equipment Problems

These are inter-related concerns that are also institutional problems. For a web based distance education program to be successful the institution must provide a reliable computer network with convenient and timely remote access. The students must also be provided with training in basic computer literacy and have a resource to contact when there are technical problems. One instructor commented, "Our institution is having problems ... the computer system is not 100% reliable for an on-line course to be fully successful."

The instructor has no direct control over the reliability of the hardware, but an unreliable computer system can adversely affect student satisfaction with the course. Because faculty teaching evaluations are dependent on student satisfaction, the instructor is ultimately held responsible for the unreliable computer system.

Conclusions

In the study the survey instrument quantified the needs and concerns of the early-adopters who developed a WWW distance education course and taught it during the Spring 1998 semester, the first semester of the Southern Regional Electronic Campus' existence. Institutions must develop the infrastructure to provide: technical training, technical support, administrative support, time for faculty to develop and teach these courses, a revised faculty reward system, and reliable computer hardware. Faculty concerns about web-based distance education were universal and not significantly different based on the discipline (humanity, social science, science/tech, or business) or type of postsecondary institution (large university, regional university, community college or technical school, or correspondence studies). One of the respondents commented on the status of web-based distance education: "Widespread understanding of the potential is yet to materialize. There is considerable fear of the unknown." The delivery of distance education on the WWW has great potential that can not be realized until the needs and concerns of the faculty that will develop the courses are met.

Plans for Future Research

Additional quantitative research about the needs and concerns of distance education instructors could be very productive, The number of distance education courses being offered on the Web is increasing dramatically. Seventy-seven WWW courses were offered by the SREC during the Spring 1998 semester. Four hundred thirty-eight WWW courses are being offered by the SREC during the Fall 1998 semester, an increase of 569 %.

The current study has several flaws that should be corrected in future studies:

- a. The instructors studied were early-adopters. Their needs and concerns may be very different from those of the next generation of course developers.

b. There was no control group to measure the needs and concerns of face-to face instructors. Perhaps all instructors are concerned about administrative support, and the time required for faculty to develop and teach new courses.

References

DeSieno, R. (1995). Netlaw: the faculty and digital technology. Educom Review, 30(4), 1-3.

Distance Education and Training Council. (1996). "Distance Education survey, 1996: A report on Course structure and educational practices in distance education and training council member institutions". 43 pages. ED407562.

Elrod, G. F. & Kelley, V. C. (1998). Maybe the emperor is naked: concerns on the brave new world of distance education. Mid-South Instructional Technology Conference. April 5-7, 1998, Murfreesboro, TN.

Fagan, P. J. (1997). Assessment of distance education implementation in Iowa: Concerns and indicators of success. In N. J. Maushak (Ed.), Encyclopedia of distance education research in Iowa (2nd ed.) (pp. 23-28). Ames: Iowa Distance Education Alliance.

Gabany, S. G. (1996). *Putting a class up on the web*. [Online], 7 pages. Available: <http://www.ind.net/fdpapers/#table> [1997, Feb. 2].

Moore, S. (1997). The role of the teacher in distance education: The teacher perspective. Proceedings of the Annual International Conference of the Chair Academy (6th, Reno, NV, February 12-15, 1997). ED407022.

National Center for Educational Statistics. (1997). *Distance education in higher education institutions*. [Online], 33 pages. Available: <http://nces.ed.gov/pubs98/distance/index.html> [1998, Jan. 29].

Peraya, D. (1994). *Distance education and the WWW*. [Online], 8 pages. Available: <http://tecfa.unige.ch/edu-comp/edu-ws94/contrib/peraya.fm.html> [1998, Feb. 7].

Sherron, T. S. (1998). In support of distance learning. Syllabus 11(7), 44-47.

Sherry, L. (1996). *Issues in distance learning*. [Online], 21 pages. Available: <http://www.cudenver.edu/public/education/edschool/issues.html> [1997, June 16].

SREB. (1997). *Survey report of SREB state regulations as they apply to distance learning*. [Online], 12 pages. Available: http://www.srec.sreb.org/student/srecdocs/survey/dl_survey.html [1998, July, 15].

SREB. (1998). *Dramatic expansions are announced for Southern Regional Electronic Campus*. [Online], 2 pages. Available: <http://www.sreb.org/scripts/news/news1.asp?Code=1018> [1998, July 15].

SREC. (1997). *Southern Regional Electronic Campus created by Southern Regional Education Board provides 15-state electronic*

marketplace for students. [Online], 4 pages. Available: <http://www.srec.sreb.org/student/srecdocs/pressrelease/PressRelease.html>
[1998, July, 15].

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