



The University of Hawai'i and Distance Education: The Critical Role of Faculty

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Introduction

Technological delivery of distance education provides higher education institutions with new and creative strategies for responding to environmental challenges caused by changing student demographics, shifts in enrollment, diminishing institutional resources, public scrutiny and accountability, and decreased state and federal funding (Duderstadt, 1999; Epper, 2001; Katz, 1999; Schwitzer, Ancis, & Brown, 2001). Increased competition from postsecondary institutions that provide distance educational opportunities has also served to propel institutions towards technology-delivered education in order to compete for students (Selingo, 1998), to target previously untapped marketing segments (Arnone, 2002), to develop flexible and innovative approaches to instruction and learning (Epper & Bates, 2001), and to effectively prepare students for post-graduate employment in a global technology-driven society (Gumport & Chun, 1999; Schwitzer, Ancis, & Brown, 2001; Wilson, 2001).

The number of distance education courses, programs, and enrollments nearly doubled within a three-year period, as documented by a report by the National Center for Educational Statistics (1999). However, the increase in courses and programs among degree-granting postsecondary institutions stands in sharp contrast to the 6 percent of faculty and staff reported in a subsequent report by the NCES (2002) as participating in distance education. Nationally, the seeming faculty resistance to adopting and using technologies that enable the delivery of distance instruction poses a growing dilemma for institutions in providing quality instruction in keeping with the increasing number of distance education courses and programs (Schwitzer, Ancis, & Brown, 2001).

The use of technology in delivering education increases educational access and offers greater flexibility regarding time, place, pace of study, and delivery of instructional content. This is a particularly vital concern in Hawai'i given the geographical dispersion of the population. Through distance education, students may now pursue college degrees in a variety of disciplines previously available only on-site or at one campus. Distance education also encourages and facilitates just-in-time training and re-training by making post-secondary offerings accessible to those who may not otherwise have access.

Statement of the Problem

Colleges and universities have embraced distance education as a solution to meet challenges brought by demands for access, reduced state and federal funding, and strained institutional resources. Paralleling the growth of distance educational courses, programs, and enrollments, is the need to have increasing numbers of faculty delivering instruction to ensure continuity and quality of the education being delivered.

The success for any distance education initiative relies on a critical and core resource, namely participating faculty who provide quality instruction. This study attempts to explore the individual behaviors of faculty by examining their attitudes toward the adoption and application of informational technologies within their institutional environment and academic profession, examine how these attitudes affect their participation in distance education courses, and determine the policy implications of these findings for higher education.

Focus of the Study

A study was conducted to examine faculty use of technology and participation in distance education throughout the University of Hawai‘i system. The study included 4,534 individuals consisting of all full- and part-time faculty from all colleges, divisions, professional schools, and programs comprising the 10-campus university system. In addition to the faculty, all system-wide lecturers and graduate assistants with instructional responsibilities for the fall 2003 academic semester were included.

An instrument was developed based on items gathered from the literature and through discussions with faculty representing the UH Community Colleges, UH Hilo, UH West O‘ahu, and UH Mānoa. The instrument was pilot tested, modified, and disseminated in fall 2003 with data collection concluding February 2004. Three separate mailings combined with an electronic web-based version of the survey yielded 2,048 responses for a 45 percent return rate. Paper-based responses comprised 86 percent of the total and web-based responses were 14 percent.

Findings of the Study

Distance Education Participation. Across the campuses, about 41 percent of the responding instructional faculty and staff report participating in distance education delivery. All units exceed a 29 percent participation rate with the highest participation occurring at Maui (67%) and West O‘ahu (63%). Campus units with a 40 percent or more participation rate include: Leeward (50%), Kapi‘olani (47%), Kaua‘i (44%), Hilo (43%), and Windward (42%). Campus units with participation rates between 30 and 40 percent include: ETC (29%), Hawai‘i (36%), Mānoa (39%), and Honolulu (31%).

Differences between participants and non-participants are apparent when comparing academic rank. UH participants tend to be full professors (23%), associate professors (17%), or assistant professors (17%). For UH non-participants, 23 percent are found in the “other” non-instructional category, with 22 percent ranked as professors followed by lecturers and assistant professors (each 16%), and instructors (10%).

Another distinguishing difference between participants and non-participants lies in their tenure status. Participants are found to be polarized as either having tenure (43%) or not being on tenure-track (42%). Participants who identified being on tenure-track but without tenure were found to be the smallest group (16 percent). This may suggest that faculty who are tenure-track and engaged in tenure-related activities may view involvement in distance education as detracting from time needed for tenure-related activities.

Demographic Characteristics Differentiating Participants in Distance Education from Non-participants. After controlling for all variables within the model, the ordinal regression results identified three demographic characteristics that were significantly associated with separating participants from non-participants in distance education: ethnicity¹, age, and institutional place of employment². The variables and their effect on participation in distance education are described as follows:

- *Minority.* Respondents who were in the minority category were found to be less likely than those in the non-minority category to participate in distance education by 18 percent. ($p < .1$).
- *Age.* The demographic variable of “age” was found to have a small effect; that is, for each additional year in respondents’ age, participation in distance education increased by 1 percent ($p < .001$).
- *Institutional Type.* Respondents from the UHCCs, UHH, and UHWO were found to be less likely to participate in distance education by 20 (UHCCs) and 30 percent (UHH and UHWO) percent, respectively, than those at the UHM ($p < .1$).³

Factors Related to Greater Participation in Distance Education Participation. Eleven factors were found to be significantly associated with increasing the likelihood of participation in distance education.

Respondents are more likely to participate in distance education:

- The more they agree that their technology skills are adequate;
- The more they agree that technology is important to conducting their professional work;
- The more they agree that their self-image is enhanced by using technological innovations;
- The more they agree that they have the skills needed to teach distance education;
- The more they agree that the quality of distance education instruction and learning is as good as face-to-face instruction;
- The more they agree that distance education is compatible with their work style;
- The more they agree that distance education is easy to use;

¹ The 11-categories associated with the ethnicity variable were collapsed into two categories (minority, non-minority) to improve significance values. Minority includes African-American, Chinese, Filipino, Hawaiian, Hispanic, East Indian, Japanese, Korean, Native-American, Pacific Islander, and Mixed/Other. Non-minority references Caucasian.

² The 11-categories associated with the campus variable were collapsed into 3 categories based on the Carnegie classification (Associates Colleges --UHCCs, Baccalaureate Colleges—UHH & UHWO, and Doctoral Research Extensive University--UHM) to improve significance values.

³ Among institutional types, participants were more likely to be at UH Mānoa although UHM has a relatively lower percentage of participating faculty than most campuses.

- The more they agree that they are able to see the results of distance educational delivery;
- The more they agree that they have opportunities to first try-out distance education;
- The more importance they assign to using software in their professional work; and
- The more importance they assign to using e-resources in their professional work.

Factors Related to Less Participation in Distance Education. Five factors were found to be significantly associated with non-participation in distance education relative to participation. The results indicate that respondents who are less likely to participate present a pattern of counterintuitive beliefs that appear to support participation in distance education.

Respondents are less likely to participate in distance education:

- The more they agree that resources are available to support their technology needs;
- The more they agree that the institution values distance education;
- The more they agree that distance education is voluntary;
- The more they agree that they can share their experiences in using distance educational technologies; and
- The more they agree that the advantages of distance education outweigh the disadvantages.

Faculty respondents who do not participate in distance education believe that resources are available and that the institution values distance education—they simply do not choose to participate. Efforts to make more training available or to reinforce the importance of distance delivery seem unlikely to change their behavior. Furthermore, they agree that the advantages outweigh the disadvantages suggesting that these respondents do not have a negative view of distance education; rather, participation may not be of interest or may not be in keeping with their approach to teaching or interaction with students. Although respondents' beliefs may appear counterintuitive, resolution of these conflicting views form a pragmatic basis for policy development and discussion.

Other Findings

Use of Distance Education Technologies. Five distance education technologies are used among the campuses: cable television, interactive television (e.g., Hawai'i Interactive Television Services, "HITS"), online/web (e.g., WebCT, Blackboard), videoconferencing, and hybrid⁴ methods. The vast majority of distance education courses delivered through any of the five distance education technologies are taught by faculty who teach only 1 to 2 classes via distance delivery. Results show that the primary distance education technology used by respondents across the campuses is online/web-based followed by interactive television. Respondents at Hilo, Mānoa, and West O'ahu likewise report online/web-based delivery as the primary mode of distance education delivery while those at the community colleges indicate using interactive television.

⁴ "Hybrid" combines face-to-face instruction with another distance education technology such as cable or interactive television, online/web delivery, or videoconferencing.

Technology Integration into the Classroom. When it comes to integrating technology in classroom instruction, participants in distance education tend to incorporate a wider assortment of technologies than non-participants with the exception of using email to communicate with students. The most frequently used resources include email, electronic submissions, and World Wide Web resources are among the most frequently used resources.

A higher percentage of participants in distance education were also found to use technologies such as interactive video, CD-ROMs or DVDs, streaming media, and World Wide Web resources. They were also more likely to accept student assignments that were submitted electronically than non-participants.

Policy Implications for The University of Hawai'i and Higher Education

Based on a comprehensive review of the policies and practices at UH and the findings of this study, there are a number of core issues underlying faculty participation and non-participation in distance education which include: technology use and skills, training and development, course design and technical support, copyright and intellectual property, perceived quality of distance education, faculty workload and compensation, and institutional and organizational administration. Although the participation of UH faculty in distance education is relatively high, these issues deserve attention.

Many of these issues intertwine and overlap, presenting further complexity and challenges for university administrators and decision makers in developing effective policies. While a few of these issues are broadly articulated in the UH Distance and Distributed Learning Action Plan (University of Hawai'i, 2003), and the 2002-2010 strategic plan for the UH System (University of Hawai'i Board of Regents 2001-2002 & Office of the President, 2002), several issues remain to be addressed. The interconnectedness of these core issues underscores the challenges in developing policies that will address each issue while facilitating a broader acceptance and understanding of distance education that is compatible with institutional culture and values.

Re-thinking Training and Development. Several findings indicate that faculty members who are more likely to participate in distance education view technology and their skill in using technology as important in conducting their work. Moreover, it was also found that faculty who are able to experience using technology by testing it and seeing how easy or difficult it is to use, and viewing it as compatible with their current work practices, are also more likely to participate in distance education.

The link between faculty proficiency, regard for technology, and increasing the likelihood of participating in distance education emphasizes the need for providing faculty with opportunities for training and development. Indeed, the literature often cites the need for institutional support in providing technology training and development as a means for influencing faculty to participate in distance education (Arnone, 2002; Betts, 1998; Bower, 2001; Dooley & Murphrey, 2000; Hayes & Jamrozik, 2001; Wilson, 2001). However, interestingly, another finding in this study indicates that faculty who are *less likely* to participate in distance education perceive greater availability of institutional resources to support technology needs. This finding suggests that training and development are not the issues preventing these faculty from participating. In

fact, the University has delivered on the recommendations in the UH Distance and Distributed Learning Action Plan and the action strategy from the UH strategic plan including training, support, online and user support groups, and an annual colloquium/conference; however, such training and development is not necessarily likely to secure the participation of non-participants.

Further research is needed to identify the particular variables that explain how faculty members acquire their technology skills, particularly for those who are more likely to participate in distance education. However, in absence of such data, it may be that instead of formal workshops and seminars offered by the institution, faculty may receive (and may prefer to receive) informal help and assistance from colleagues within their own department, discipline, or college.⁵ The proximity of a knowledgeable colleague may be more convenient, enticing, and conducive to increasing one's knowledge and skills in using technology. Such informal interactions between colleagues also supports other findings in the study that account for increased participation in distance education: whether a technological innovation is compatible with current work practices, the ease in using it, the ability to try it out, and the ability to see its results.

In addition to substituting collegial interactions for institutional workshops and seminars, another possibility might be that faculty who participate in distance education may have acquired their knowledge and skills through self-learning or other means that are entirely independent and external to the institution. In the event faculty members are found to receive training and development through informal means such as peer support and self-learning, funding could be directed toward reinforcing this process (e.g., "train the trainer" efforts that reach into departments to support continued and ongoing work).

Course Design and Technical Support. The findings of this study indicate that faculty who are more likely to participate in distance education also exhibit stronger agreement that their distance education instructional skills are adequate. However, acquiring these skills calls for addressing distinctions inherent in the distance education medium. Foremost is having faculty adjust their course materials and instructional delivery within the parameters established by the medium; however, faculty with limited or no prior experience may be unable or unwilling to do so without help or support. To assist faculty in making this transition, instructional designers and technical support personnel should be available to facilitate the course design and to provide technical assistance. Such assistance should not circumvent nor impede faculty in their delivery of instruction or course content.

In addition to addressing inherent characteristics of the distance education medium, further distinctions may also arise from departmental or campus-based culture. Such culture may informally establish subtle or overt expectations which promote or inhibit technology use. For example, if the norms of a department (or of certain faculty members within the department) establish a high level of sophistication and elaboration in on-line delivery, the high bar may encourage (or discourage) the novice to participate. Conversely, if departmental norms emphasize "chalk and talk" non-technological means of instructional delivery, the residing faculty may not feel compelled to participate in distance education. Understanding how these

⁵ Such events have been substantiated by faculty during the discussion sessions with several describing incidents in helping colleagues learn new skills or resolve technological problems.

expectations form and become established may provide further insight as to ways to encourage technology use and participation in distance education.

Intellectual Property and Copyright. To support faculty in developing or transforming course materials for distance delivery, the institution must also establish and disseminate clear guidelines as to ownership and copyright protection of the course materials. In developing materials for distance education courses, clear policy guidelines should be established to identify ownership of the materials. Ownership should include the circumstances under which the course materials will be held by the faculty member, the institution, or jointly, and how it may determine royalty payments (as applicable). Further clarification or stipulations may also be given as to governing use of the materials including time limitations (as appropriate to the subject matter).

The specificity of the intellectual property and copyright issues would certainly expand the FAC5 clause of the UH Distance and Distributed Learning Action Plan which addresses copyright support by establishing a service “that helps faculty understand the legal use of copyrighted materials in a distributed learning environment and provides copyright clearance assistance when appropriate” (University of Hawai'i, 2003, p. 6). Intellectual property is also identified in the UH strategic plan as one of the issues requiring resolution as it “create barriers to faculty participation in distance and technology-enhanced learning” (University of Hawai'i Board of Regents 2001-2002 & Office of the President, 2002, pg. 18).

Quality. When it comes to assessing quality of distance education (e.g., instruction, learning, student interaction, students and their work), faculty respondents who participate in distance education consistently held more positive views than non-participating faculty. While it is unclear as to how non-participating faculty are forming their opinions, the results suggest that experience might be the most persuasive tool in encouraging participation in distance education. The perceived quality of distance education courses may be bolstered by having broader participation from the faculty at all ranks. Among respondents who indicated participating in distance education, participants who were on the tenure track but not tenured were the smallest group (16%). This suggests that junior faculty may be engaged in contract renewal and tenure-related activities which preclude them from participating in distance education. Junior faculty may view or be advised that distance education detracts from time spent on tenure-related activities; however, junior faculty members represent new and current knowledge which would contribute toward enhancing and elevating the quality of distance education content and instruction.

In addition to junior faculty, senior faculty members are also an important component in sustaining quality in distance education. Senior faculty represent a wealth of scholarly knowledge and instructional experience, and encouraging greater numbers of faculty to participate in distance education will help to enhance the quality of online instruction and learning.

Expectation of Participation. This study found that those respondents who are less likely to participate in distance education are more likely to believe that the institution values distance

education. While this may be an indication of underlying tension between faculty and administrators or even the autonomous nature of faculty, expectations for participation in distance education must be clear. Departments and colleges committed to the delivery of instruction by distance must create an expectation of participation by specifying in job descriptions the nature and level of involvement expected in distance delivery. Furthermore, such expectations should be incorporated into tenure and promotion requirements. Clarification would help encourage participation by junior faculty by alleviating the pressure and perceived risk associated with the contract renewal and tenure process.

To help faculty meet the expectations for teaching distance education courses, it is also important to find the right distance education technology from the five modalities that is best suited to fit individual work styles and preferences. This would help faculty gain greater confidence in their technology-skills and help to encourage and sustain their participation in distance education.

Workload and Compensation. It is generally acknowledged that teaching distance education courses, particularly those that are online/web-based, requires more time than traditional face-to-face courses. The results in this study substantiated this perception as 59 percent of participants and 41 percent of non-participants strongly agreed. The amount of time and work involved in developing course materials, delivering instruction, facilitating discussion and communicating with students, and managing technical challenges presented by the medium, exceeds the normal class and office hours associated with traditional classes and is a disincentive for participating.

Compensating faculty for the amount of time and work required for developing distance education courses is fairly common; compensation for their delivery is not common practice, probably due to issues of equity. Faculty are not reimbursed differentially for teaching a section with 14 students relative to one with 28 students, or lectures as compared to seminars, or any of the various teaching modes independent of technology or distance. Creating differential reward structures for distance instruction deserves thoughtful consideration to determine whether the potential benefit of increased participation would outweigh the potential cost of perceived inequities.

If differential compensation is considered, such plans may take into account the types and amounts of preparation for each of the modalities, (e.g., online vs. ITV, cable, hybrid) and may occur in various forms. For example, compensation could take the form of: graduate or teaching assistants, stipends, course releases, overload pay or additional payment above the base pay according to the number of remote sites. Compensation could also include costs associated with use of home equipment, software, equipment upgrades, and Internet service costs. The issues of workload and incentives “for participation in entrepreneurial programs” and recognition in tenure and promotion processes are included in the UH strategic plan as matters that “create barriers to faculty participation in distance and technology-enhanced learning” and need resolution (University of Hawai'i Board of Regents 2001-2002 & Office of the President, 2002, pg. 18). Revising the language of this policy to provide greater specificity of the issues and conditions associated with workload, compensation, and incentives would help clarify the policy and strengthen its application and enforceability.

Key Recommendation for the University of Hawai'i System

In addition to the policy recommendations presented in the previous section, there is one key recommendation that is critical to understanding the scope and depth of faculty participation in distance education: data collection. There is a vital need to have data about participation in distance education collected in a centralized database (i.e., the student course registration system, Banner). This would allow information to be collected in a timely, accurate, and ongoing manner that would permit deeper analysis. Such information would include: the level and type of courses taught, the mode of distance educational technologies used, faculty (discipline, department, college) who teach the courses, as well as other elements that would provide a better sense of participation in distance education and also allow for examining trends over time.

Conclusion

The success of distance learning is achieved not only from well-conceived programs, well-prepared students, and a solid technology infrastructure and support system, but it also relies upon engaging and developing qualified faculty to participate in delivering instruction through this medium. Much of the success or failure of distance education rests upon how faculty members perceive technology and the degree to which they assimilate and apply the related technologies. While faculty engage in using selective technologies, the findings of this study indicate that their participation or non-participation in distance education results from factors associated with their skill in the use of technology, their attitude toward technology and distance education, their ability to adopt an innovation, and the demographic variables of age, ethnicity, and institutional affiliation.

Developing distance education policies that meet faculty and institutional needs clearly presents numerous challenges for institutional planning and decision-making processes. Foremost is developing policies that will increase faculty participation in distance education and call for integrated system-wide planning across colleges, departments, and disciplines. Such efforts should be directed toward developing long-range strategic planning that makes distance education instruction an expected component of faculty workload as appropriate to campus and departmental mission, provides increased access and funding for technology needs, develops on-site support units that are housed within colleges and disciplines, addresses copyright and intellectual property issues, and provides fair and equitable compensation.

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