The Journal of Distance Education / Revue de l'Éducation à Distance, Vol 11, No 1 (1996)

A Holistic Model for Primary Factors in the Ecology of Distance Education Course Offerings

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VOL. 11, No. 1, 101-110

Abstract

Distance education programs are playing an increasingly important role in educational programs throughout the world. Despite the rapid growth of distance learning, however, few efforts have been made to conceptualize and ground the distance education process theoretically, particularly in terms of offering a quality educational product. The current investigation provides a holistic model with five primary factors that affect the overall ecology of a distance learning experience. Included in the model are considerations for course delivery, instruction quality, student participation and involvement, course and program administration, and the culture of teaching and learning.

Résumé

Les programmes d'éducation à distance jouent un rôle de plus en plus important dans le domaine de l'enseignement partout dans le monde. Cependant, malgré la croissance rapide de l'enseignement à distance, peu de travail a été fait afin de conceptualiser et de cerner au plan théorique le processus d'éducation à distance, surtout quant à la qualité du produit pédagogique. Cette enquête dégage un modèle holistique comprenant les facteurs primaires déterminant l'écologie globale de l'apprentissage à distance. Ce modèle s'attarde notamment à l'enseignement des cours, à la qualité de l'instruction, à la participation des étudiants, à l'administration des cours et du programme, ainsi qu'à la culture de l'enseignement et de l'apprentissage.

Introduction

Educational institutions throughout the world have begun an unprecedented competition for students and the resources that often accompany student enrolment, primarily tuition and fee revenue provided by the individual, a sponsoring agency, municipality, or government. The result for many institutions, secondary and postsecondary, has been the development of innovative course delivery methods through different distance learning technologies. Although correspondence courses have the longest history and continue to form the base of instructional delivery in many locations, satellite technologies, interactive computer networking and capabilities, and video and audio technologies have

created a new environment and market for distance education.

But as distance education programs have proliferated in virtually every market imaginable, few efforts have been directed at developing a conceptual or theoretical framework for assuring programmatic quality. Although there have been allusions to improving programs and examining the relationship of the entire distance education program to the ideas of planning and sources of knowledge (Moore, 1993), there have been no attempts to relate distance education to a larger model that includes inputs from administrators, faculty, and students while considering the demands of the environment in which students are expected to learn.

The current investigation was designed to survey and evaluate existing research and literature to propose a holistic model for the ecology of distance education in both academic and non-academic programs. Inherent in this model development are theories prevalent in the social sciences that are yet unreferenced in the study of distance learning.

Understanding Distance Education

By definition, distance education programs typically involve learners removed from the location of instructional delivery. This concept was first developed using correspondence programs, and it has now expanded to include a wide variety of technologies and delivery strategies. Distance education programs have been the subject of much study, typically through the lens of continuing and vocational or adult education. In the process of examination, distance learning has been criticized for its lack of student services and for its reliance on networking and informal "bonding" among students (Souder, 1993). Alternatively, feelings of neglect among students and the lack of support in the form of faculty interaction and access to library or reference materials have been identified as major barriers to success in distance education programs (Willis, 1991; Newcomb, 1992).

Regardless of student perceptions of learning in the distance education setting, many faculty have themselves reported feeling inadequate or unprepared in teaching using distance learning technologies (Wolcott, 1993). The remoteness of students from the delivery site, restrictions on in-class assignments and group work, and the limited use of nonverbal behaviour have all been identified as major difficulties in distance teaching. For administrators, the distance education program has been seen largely as a boon for increasing visibility, program accessibility, and, in some cases, revenues. The unique nature of distance education, which requires alternatives to traditional course assessment, consideration of its practicality and cost effectiveness, and different enrolment practices and procedures, places a diverse set of demands on administrators responsible for distance learning program implementation (Perraton, 1982). Additionally, traditional uses of learners in designing courses and programs of study, which is consistent with adult learning practices, are difficult to incorporate in designing distance education programs.

Despite this lack of understanding on the part of learners, faculty, and administrators, distance education programs have flourished and are widely used for economic and professional development programming (Katsinas, 1988). Enterprising colleges and universities have begun to use distance education techniques to deliver programs around the world, as is illustrated by the University of Nebraska-Lincoln's offering a doctoral degree in Higher Education Administration to community college administrators in Guam.

Conceptual Considerations of Distance Learning

Distance learning programs evolved out of the need to deliver specific programs to remote areas. Since then, they have grown to encompass many types of adult learning experiences, ranging from leisure courses to adult basic literacy and traditional educational needs, such as secondary level foreign language skill instruction. The process of developing and delivering these courses assumes that distance education programs can effectively provide instruction to learners at sites removed from the instructor. Such an assumption is based on at least three factors: learner responsibility, instructor responsibility, and administrative assistance.

Learner Responsibility

Learner responsibility refers largely to the level of ownership taken by learners in obtaining specific skills or competencies through the course. With the instructor removed from the individual delivery site locations, learners must be responsible for completing course expectancies, paying attention during class, and participating with peers in discussions and assignments related to the course.

Additionally, many distance learning programs utilize two-way audio or visual technologies, which allow instructors to monitor students during the course, and, subsequently, some of the necessity for individual responsiveness has been diminished. Correspondence programs and weekend courses, however, continue to rely on the individual to act in a mature and responsible manner for "learning" the material; this "learning" is aided through periodic supplements, such as telephone or computer-aided dialogue, testing, and meetings with instructors.

Instructor Responsibility

Instructor responsibility has been described as vital to distance learning program success, and it entails both curriculum design and delivery. Faculty involved in teaching through various distance learning technologies have the responsibility to design instructional programs that involve learners at delivery sites in class dialogue, where possible, and in the establishment of course goals and objectives (Miller & Husmann, 1994). Although this requirement is less true for secondary education programs, which need a more didactic approach to instruction, faculty remain responsible for revising, updating, or "molding" curriculum to fit the unique demands of the distance learning environment. Inherently implied is the need for faculty to be aware of and able to adapt curricula and their teaching methods to fit the medium, whether print or electronic, utilized in course delivery.

Administrative Assistance

Administrative responsibility for distance learning has implications for several dimensions of the program's development and delivery. Admin-istrators are largely responsible for determining course offerings and locations, while simultaneously they must respond to course delivery methods, faculty preparation, the financial management of the operation, and the technical considerations of program and course delivery. Notably, the agency delivering the course is responsible both for the sequencing of courses and for the quality indicators for the course and program. In addition, the basic curriculum development model implemented must be determined by these administrators and justified through an accepted set of criteria. Furthermore, the administrators have historically been accountable for faculty preparation and support through the duration of the course and program.

Toward a Holistic Model

Modelling in adult education program development has consistently been cited as a means for effective program planning. Through the use of models in curriculum and program design, educational opportunities are afforded consistency and a tested means for determining learner needs. Rarely, however, do current models address the entire framework of program design, which ranges from faculty development to the learner's needs. Using the input and participation of over 150 educators in the United States, the model presented here was designed to facilitate a more effective and structured means of developing and fostering quality distance learning experiences. The model additionally was designed to define the criteria necessary for a positive and nurturing program ecology.

Procedures

The current model is the result of five independent surveys completed between 1992 and 1994 using national samples from throughout the United States. The sample included 25 student affairs administrators, 55 faculty teaching in distance learning programs, 40 students who were deemed to excel in the "distant" classroom, 30 administrators responsible for facilitating distance learning programs, and 30 other faculty and administrators (such as technicians) who had input in the creation and maintenance of distance learning experiences.

Prior to the implementation of the individual surveys, general categories for response were identified in the literature pertaining to adult learning, staff development, general administration, and student affairs. The guiding assumption of the study resulting from the categories was, as Moore (1993) contended, that an ecology or holistic view of distance education could be developed. Subsequently, five specific areas were identified for further exploration: course delivery (D), instructional quality (I), learner involvement (L), course and program administration (A), and the teaching and learning culture (C). Conceptually, these factors could be viewed in the following schematic, where the cultural of the program transcends each of the primary factors:

$$\text{Program Ecology} = (D \times I \times L \times A) / C$$

Because this was an exploratory study, the Delphi survey technique was employed with the five

different samples. The Delphi technique allows for experts or individuals with personal knowledge of a subject from geographically diverse areas to provide reflective feedback and express their opinions, beliefs, and attitudes to an open-ended question (Borg & Gall, 1988; Rojewski, 1990). Input is solicited through a set of sequential questionnaires with group feedback provided following each round of rating individual statements.

The question related to course delivery included a sample of 15 technicians who operate distance learning technology during course delivery and 15 faculty with experience teaching in courses offered through distance earning. The question related to instructional quality included 30 faculty with experience teaching in distance learning and 15 administrators with direct oversight for distance education programs. Learner involvement was explored with a sample of 20 students who were deemed "excellent" by their instructors in distance education course achievement and 20 student affairs administrators knowledgeable about campus learning environments. The Delphi question related to program administration involved 15 administrators with distance learning oversight and 15 technical administrators and faculty responsible for various managerial task associated with distance learning. The teaching and learning culture of distance learning programs included another 20 students who were deemed "excellent" in the distance learning classroom, 10 faculty with experience teaching using distance learning technologies, and another 15 student affairs administrators. No individual appeared in the sample more than once, and all samples were purposely selected. One higher education institution was represented in the sample four times, and no other college or university had more than one representative included in the sample.

The sample totalled 180 individuals with first-hand knowledge of the practice of distance education, and a total of 165 individuals participated in the study for a 92% return rate. No attrition was experienced between Delphi rounds, and Cronbach internal reliability indices for each survey ranged from .69 to .82. As each survey was conducted individually, the potential did exist for an item to be developed, reported, and ranked in more than one category. This limitation was accepted on the premise that a particular issue could be relevant to several categories and thus further demonstrates the need for holistic understanding of the distance learning process.

Delivery

Course delivery can include many factors, largely depending on the type of delivery mechanism utilized. Respondents throughout the investigation, however, highlighted the need to give attention to the technical aspects of teaching. Respondents stressed the following:

- presenting material using visual aids
- addressing specific locations and students by name
- taking special care to hold the attention of learners at various locations
- questioning learners more
- being available over the telephone or through computer networks for advising and counselling students
- making special efforts to prepare and disseminate information prior to class meetings.

The concept of developing a faculty reward system for those teaching through distance education strategies was also presented here, lending credence to the concept that additional preparation time is needed for instructors to better prepare for their medium of instruction.

Instruction

Although instruction and delivery were largely intertwined, visual learning was continually stressed by faculty and students participating in distance education courses. Issues to consider in teaching in distance education courses also identified were: "use video cassettes with materials that cannot be shown on paper," "learn and use students' names; take attendance," "ask questions, even simple ones, to get the students to interact," and "take better advantage of the maturity and insights of the working professionals to bring issues into the class." Conceptually, diversity of teaching styles, innovation in presenting materials, and taking the time to deal with learners on an individual basis were all considered important to improve instruction.

Learner Involvement

The involvement of participants in the learning process is an inherent component of both adult learning theory and the Involvement in Learning concept for undergraduate education. Learners who

were deemed successful in the distance education classroom clustered learner-focused strategies for more effective learning into three categories: individual-focused activities, institutional-focused activities, and instructor-focused activities. Individual activities included such items as a greater sense of self-discipline and self-direction, consistency in staying caught-up in class, greater reliance on study guides and handed out material, and participation in pre-course orientations. Institutional activities included making use of re-broadcasts or printed materials, having access to FAX machines or computer networks and networked interlibrary loan resources, and having open access to the source of instruction. Instructor activities included the pre-class distribution of all resources, telecommunication driven study or counselling sessions, and onsite visitations.

Administration

The administrative dimensions of encouraging excellence and effectiveness in distance education programming are perhaps the best described in the existing literature. Working toward establishing a reward system that is conducive to using courses offered through distance education technologies received a considerable amount of support as did the concept of "implementing a reward system to promote creativity in distance education teaching." To assure success in distance education, administrators also identified the need to: "make programmatic quality a high priority," "promote the involvement of quality faculty who are enthusiastic about distance education," "encourage continual updating of course content," and to commit to being "customer focused by offering programs concentrated on potential client needs."

From an institutional perspective, how does distance education and its related technologies mesh with the overall mission of the university? In a time of depressed budgets, decreasing state funding, and a newly controlled congress, administrative concerns regarding distance education often become a low priority. As the vast majority of institutional operating money is dedicated to faculty salaries, little is left to be flexible in rewarding faculty and providing institutional support in efforts beyond the current university infrastructure.

Miller and Husmann (1994) found that long-term commitment to distance education from the administration will often determine the success and support for such efforts. Many administrators agreed that developing regional plans for collaboration and co-operation is a critical concern to ensure program quality and course offerings via distance education technologies.

Culture

The culture of the learning environment has received growing scholarly and practitioner interest since the concept has become a focus of attention in student affairs and campus planning. In distance learning programs, the setting is not bound by the traditional campus quad and must somehow transcend vast distances between instructors and learners. Study participants identified three areas in need of attention to improve the culture of distance learning: administrative actions, programmatic considerations, and technology and delivery related actions.

Administrative actions included such ideas as:

- providing students with listings of support services available on campus
- providing better academic support for distance learners, including access to library materials and advising support
- encouraging greater acceptance of distance education and offering quality programs that are continuously improved.

Program planning actions included:

- course credits that are transferable
- academic programs that are flexible to alternative delivery methods
- better responsiveness to student needs
- faculty involvement in the entire program planning process.

Technology and delivery actions ranged from the concrete

- clear and concise presentations
- timely feedback about the quality of student work
- training for participants in technology use

- better use of different technologies

to the abstract and innovative

- using a revised notion of learning
- increasing the understanding of adult learning
- developing an attitude about students that accepts and includes non-traditional learners.

Discussion

The complexity of the data collection and variety of methods used to gather responses present a unique challenge in the modelling of program development and assessment in distance education administration. Beyond this complexity, however, lies the innovative and necessary conceptual grounding for viewing distance learning not as a single course but as a larger sequence of learning experiences that extend into personal lives and that endure much longer than a 16-week semester. Unfortunately, the perception of distance learning today all but ignores the traditional correspondence program, a trend that is reflected in how the various study participants view distance education.

Educational institutions, ranging from community and junior colleges to research universities, will continue to rely on the ability to cover great distances to deliver courses and in the process will naturally begin to address quality concerns to maintain accountability. Modelling, as presented here, anticipates this movement toward quality concerns, and it suggests from both a developmental and individual view that attention to the overall process is both basic and essential.

The holistic model presented here provides a framework for understanding the variety of components involved in distance education. Practitioners in many academic programs have struggled to "improve" individual components of the learning enterprise, but they have neglected areas such as student services and student academic and non-academic support. The institutional perspective, however, has recently begun to diminish the boundaries that have separated institutions for so long, and this practice must be employed in distance learning if programs are to survive and offer quality learning experiences. The discussion of distance education must move beyond the current dimensions of offering faculty support and new telecommunications systems. It must begin serious dialogue about the value of all involved in teaching and learning and the power of the learning environment. Accepting the need for a more system-wide or overall view of distance education programming lends credence and value to the model presented here as a departure point for a rigorous and spirited debate about what, and who, should be included in distance learning programming.

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References

Borg, W. R., & Gall, M. D. (1988). Educational research: An introduction (4th ed.). NY: Longman.

Katsinas, S. G. (1988, November 16). The role of education in economic development. Paper presented at the Second World Conference on Technology and Education, Manila, Philippines.

Miller, M. T., & Husmann, D. E. (1994). Strategies for improving instructional delivery in distance education programs. MPAEA Journal of Adult Education, 23-29.

Moore, M. G. (1993). Is teaching like flying? A total systems view of distance education. The American Journal of Distance Education, 7(1), 1-10.

Newcomb, L. H. (1992, June). Satellite television technology is ready for us. Are we ready for it? AGSAT-The Agricultural Satellite Corporation Newsletter, 1(10), 2.

Perraton, H. (1982). Alternative routes to formal education. Baltimore, MD: Johns Hopkins University.

Rojewski, J. W. (1990). Priorities in the study of vocational special needs: A Delphi approach. Unpublished doctoral dissertation, University of Nebraska-Lincoln.

Souder, W. E. (1993). The effectiveness of traditional vs. satellite delivery in three management of technology master's degree programs. The American Journal of Distance Education, 7(1), 37-53.

Willis, B. (1991). Faculty resource guide to distance education. Boulder, CO: Western Cooperative for Educational Telecommunications.

Wolcott, L. L. (1993). Faculty planning for distance teaching. The American Journal of Distance Education, 7(1), 26-36.

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ISSN: 0830-0445