
Research Opportunities in Distance Education

Gary E. Miller

For many years distance education has existed on the periphery of American education. Today it is evolving and rapidly moving into the mainstream of an educational environment that is increasingly affected by technology and by the needs of a knowledge society. In the process the research agenda for distance education is also changing.

The forces that are shaping the future of distance education arise out of a new view of the social role of education which is now a generation into the Information Revolution. The most obvious trend is the movement of distance education into the mainstream of educational life at all levels, from K-12 to higher education to work-force education. This movement gives rise to new organizational relationships, to a more complex view of the learning environments created by distance education, to increasingly sophisticated uses of technologies within these learning environments, and, ultimately, to the need to rethink the policy environment in which our institutions operate. This article will look at six trends and at the research issues that arise from them.

While distance education now operates across all sectors of education and training, the author's background is in higher education. As a result the discussion will tend to emphasize the role of distance education in higher education. However, this should not be taken to suggest that distance education is not a significant factor in the schools, the workplace, and the community.

Mainstreaming Distance Education

Traditionally, distance education has been synonymous with attempts to reach beyond traditional institutional boundaries. From the first

Gary Miller is Assistant Vice President for Distance Education at The Pennsylvania State University. This article was an invited keynote address at the Eastern Adult, Continuing, and Distance Education Research Conference, State College, PA, October, 1996.

correspondence courses in agriculture in 1892 to more recent uses of satellite and the Internet, distance education has been associated with increasing access to education for geographically isolated learners. Today, however, off-campus delivery often competes with the use of distance education to extend learning among campuses. The rapid acceptance of compressed interactive video has been based in large measure on the goal of inter-campus delivery rather than just off-campus delivery. Similarly, the World Wide Web has gained early, initial acceptance as a way of extending the impact of instruction beyond the classroom to students on residential campuses. The technologies associated with distance education are becoming part of the general learning environment and are changing significantly its role within the institution.

Organizational Relationships

The mainstreaming of distance education gives rise to a variety of new organizational relationships. Just as distance education, by eliminating geography as a barrier to delivery, creates the threat of new competition for local institutions, it also opens the door to new kinds of collaboration and partnerships. Four examples illustrate the impact of these relationships on practice. Every state in the U.S. now has some kind of state-wide distance education initiative underway. For the most part, these initiatives are focused on improving K-12 education and grow out of concerns for equity, cost, and curriculum improvement in the schools. At the same time, however, these initiatives are fostering new relationships among schools, between schools and higher education, and among various funding initiatives to require evidence of collaboration among two or more sectors.

The last year has seen a remarkable interest in the "virtual" university, as both state governments and individual institutions see the potential for extending key programs nationally via distance education. The spark that ignited the most intense interest was the announcement by the governors of thirteen western states that they will create a collaborative "Western Governors Virtual University" (the "Virtual" was soon dropped). However, the same collaborative spirit marks other "virtual university" initiatives. For example, Michigan's Virtual Auto College proposes to serve the work-force needs of that state's key industry through a new organization that represents the combined efforts of Michigan State University, the University of Michigan, community colleges, schools, and even private vendors.

Within industry the 1990s has seen the rise of the corporate university as a focal point for internal training and education. In many companies the

corporate university not only provides job-specific technical education and an orientation to the company's corporate culture, but it also serves as a broker for strategic partnerships with colleges and universities. Often those partnerships are based on distance education.

New Learning Environments

Ultimately both the mainstreaming of distance education and the creation of new institutional partnerships based on distance education reflect a broader trend--the evolution of a new learning environment that not only uses the new technologies but that is itself a response to the impact of technology on daily life. In a knowledge society information itself has ceased to be of value. Instead, education adds value by helping individuals become lifelong learners who can find and evaluate information and apply it to solve problems and make decisions. It is not surprising to hear major corporations describe themselves as "learning organizations" and talk about "out-learning the competition."

Since the early 1980s higher education has faced a demand for a new approach to curriculum that is more responsive to changing social needs. As the knowledge society has begun to take shape, the nature of the response has become more clear. As a result, many institutions are experimenting with new approaches to the teaching/learning environment. Experiments with inquiry-oriented, resource-based learning and with collaborative learning are giving rise to new "studio" classrooms and multi-media case study "laboratories" on some campuses. Technology has provided the tools that support these innovations and facilitate the remaking of the curriculum.

Distance education, which has been experimenting with these new approaches on the periphery, is now part of a broader community of innovation in our institutions. To the extent that many are innovating with new ways to articulate and deliver a common curriculum—on campus and off campus—the development of new learning environments is contributing to the blurring of old distinctions between distance education and resident instruction. This blurring has a distinctive impact on research about distance education.

The Dimensions of the New Learning Environment

What marks this new learning environment that is driving distance education into the mainstream? Increasingly it is defined not by technol-

ogy but by a new set of relationships among the learner, the faculty, the material to be learned, and the resources that are used to facilitate learning. The new learning environment is, first, more focused on the active participation of the learner in the teaching/learning process. Action, in this sense, includes seeking out information, evaluating it, and using it to solve problems, make decisions, and establish values and contexts for future action. It may also mean working in collaboration with other learners.

This type of participation, in turn, suggests that the new learning environment is resource based. The faculty member is not the source of all information; rather, she is a guide to learning resources. For distance education this means less of a reliance on organized course guides or live video lectures and more of a reliance on on-line or CD-ROM databases and a communications environment that facilitates inquiry and interaction among learners and between learners and faculty.

The Technology Factor

These new requirements drive distance education to a multiple-media approach. The field is moving quickly away from the “synchronous” environment of satellite, interactive video, audiographics, and audio conferencing toward an “asynchronous” environment that mingles print, video, and audio “hard copy” presentation media; CD-ROM, the World Wide Web, and other on-line resource sources; and e-mail, groupware, and other asynchronous interaction media that provide a rich resource and communications environment. Not insignificantly, these same media are being used increasingly in campus-based instruction.

In the long term the global convergence of video, voice, and data into a single multimedia “utility” in our homes and workplaces will further speed the movement toward a multiple-media, learner-controlled environment. Whether it is delivered to the individual by cable, the phone company, or the power company, the commercialization of this convergence will result in an “edutainment” environment that will speed the evolution of distance education.

The Policy Environment

We are beginning to see the emergence of a new policy environment for distance education. Nationally, two organizations--the Western Inter-State Cooperative for Higher Education and the American Council on Education--have promulgated principles to guide practice and policy in

distance education. The title of the American Council on Education's principles, "Guiding Principles for Distance Learning in a Learning Society," suggests the degree to which these national groups appreciate the implications of the Knowledge Society on distance education. Similarly, regional higher education accrediting agencies have begun to create accreditation guidelines for distance education among their member institutions. A clear issue in these guidelines is whether distance education requires separate standards or a new policy "vocabulary" that recognizes distance education as one of many ways in which institutions can facilitate learning.

At the institutional level administrators are struggling with similar problems. For the past two years Pennsylvania State University, with support from the AT&T Foundation, has held a series of invitational distance education policy symposia involving 20 land grant and historically black institutions. The symposia have resulted in a statement dealing with administrative and faculty policies.

A Research Agenda

These trends suggest a wide range of research needs in distance education. While there are many ways to view the research agenda, I will focus on four areas: policy, organizational issues, the technology, and teaching/learning issues.

Policy Research

The policy agenda directly reflects the mainstreaming of distance education at all levels and the increasing interest in inter-institutional and institution-client partnerships. In order to fulfill the institutional perspective of distance education, there is a need for research that unbundles the assumptions of current institutional policy and that suggests ways of rearticulating policies so that they are inclusive of distance education, while maintaining the spirit of the original policy. Similarly, there is a need to develop new standards to guide the development of virtual universities and corporate universities.

Organizational Issues

As institutions struggle with how to integrate distance education, the need grows for research into a wide range of organizational issues. What aspects of distance education should be centralized and decentralized in this environment? What is the impact of blurring distinctions on such

elements of an institution as program financing, faculty reward, intellectual property, etc.? One starting point for a line of research would be to compare the processes and results of the many institutional task forces on distance education to identify common issues and the range of solutions that institutions are discovering. At another level, organizational research could look at common elements of job descriptions in distance education, relationships between programmatic units and technology infrastructure units, and other issues that affect how institutions organize to conduct distance education in this new environment.

Technology

The technology of distance education is a fast-moving target. While it is frustrating to focus research on a particular technological application, there would appear to be good potential for research that emphasizes the ways in which learners interact with different types of technology and with the “ergonomics” of specific technologies, so that faculty and instructional designers can develop more sophisticated mixes of technologies for distance education. At the same time there is a great need for research that will inform the development of new applications to ensure that they work in an educational environment.

The Learning Environment

One of the forces driving the integration of distance education into the educational mainstream is the changing social need for education. Conceptual research on the social purpose of learning in a knowledge society will provide the theoretical context in which other elements of distance education can be better understood. Theory-building research would also help educators define the dimensions of the curriculum now possible through distance education and related technology applications. The differences between our traditional understanding of a “student” and our emerging view of a “learner” and between the old view of an “instructor” and the emerging idea of a “facilitator,” need to be researched, as do the changing needs for learner support in a distance education environment marked by active, collaborative, resource-based learning.

Conclusion

It was not long ago that researchers and practitioners alike were debating whether distance education should be its own “discipline.” Clearly, the current trend suggests that distance education is part of a broad

pattern of change in learning organizations of all sorts. While there is a lot of work to be done within the context of adult education theory, there are many opportunities for interdisciplinary research among distance education and instructional systems, various aspects of educational administration, educational and public policy studies, organizational development, and technology design. Distance education may not be its own discipline, but the research opportunities are rich, and the potential impact is significant for the future of education.