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EDITORIAL

In this thought-provoking article, Gary Miller discusses four long-term trends in distance education:

1. The simultaneous diversification and convergence of technologies
2. Changing relationships with students
3. Changing relationships among institutions
4. The emerging mainstream

Long-Term Trends in Distance Education

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Distance education in the United States has entered a particularly important stage in its development. After a long period of relative stability in terms of its basic assumptions and procedures, and a more recent period of dramatic change marked by rapid diversification of media, distance education today is entering a period of integration and convergence. This period brings with it significant implications for the practice. This paper will look at four long-term trends in distance education and at the possible implications for distance education.

Trend One: The Simultaneous Diversification and Convergence of Technologies

In 1980, the technologies available for production, delivery, and interaction in distance education were few and simple. Institutions relied on the printed word, recorded video and programs, and occasionally live television programs for development of subject matter; on the postal service, public television, and cable television for delivery; and on written essays, individual phone consultations, and audio tape for interaction.

A decade later, the technological environment has changed in ways few anticipated in 1980. Videocassette machines are in 80% of homes and have become a routine way to deliver the video portion of a course; increasingly, satellite is a last-mile delivery system and not just a way of getting programs to a television station. More significantly, live, interactive media have entered the distance education picture, with microwave ITV, audiographics, compressed video, computer conferencing, audio conferencing, and so forth. These media are markedly different from other distance education media in how they affect the relationship between the institution

and the student. While print and broadcast media--and even videocassette--are directed to the individual student, these interactive media tend to be used to extend the traditional classroom environment.

Looking ahead, one can just now begin to see other technologies entering the distance education arena. Almost all of these are digital technologies. They range from hypermedia programs, which allow the student to control how a body of information is explored, to large scale data bases, accessible through Internet and other computer networks, to integrated data systems that, eventually, will allow individuals to "dial up" video programs, audio materials, data bases, software, etc., from home or work.

Implications of Technological Convergence

This rapid and ongoing change in the technological environment of distance education has important implications for higher education.

First, distance education is, more obviously than ever, multi-media education. Increasingly, distance education will use a variety of media within courses and among courses in a curriculum. This has implications for course design and curriculum planning in distance education that go beyond the traditional issue of "delivery."

It also has implications for how institutions organize their resources. Historically, institutions have tended to organize around a technology. For example, it is not unusual for an institution to have separate operational programs for print-based programs and television-based programs. This technology-specific approach is increasingly untenable in a technology-rich environment. Increasingly, distance education is driven by curriculum and student need, rather than by technology. Organizational structures that do not facilitate a mixing of technologies will find it difficult to reach their full potential in this new environment.

At another level, the explosion of technology is changing the way we define distance education. The definition now covers such diverse--and contradictory--educational methods as independent learning and extended classroom learning. Increasingly, distance education is best defined not by the technology used for delivery but by the nature of interaction involved in the educational process.

With an increasingly technology-rich environment, the stakeholders in distance education are expanding. The technology itself is part of a new institutional infrastructure; instructional applications must be considered alongside administrative and research applications. This creates a broader community of interest with regard to the initial investment in technology. Similarly, the infrastructure extends beyond a single institution. The technology used by higher education must be compatible with K-12, community colleges, governmental and private uses. As statewide telecommunications systems emerge, distance education becomes a policy matter at the legislative and executive levels. State regulators and regional accrediting agencies have joined the community of distance education stakeholders.

Trend Two: Changing Relationships with Students

The perspective of a decade provides an excellent view of the changing relationships between institutions and students that is coming about due to our changing use of technology. Historically, distance education has served the individual student in isolation. The tradition of correspondence education is that each student constitutes a class of one. The student interacts with an instructor, but has no interaction with other students. This model, now a century old, was adopted as the basic model for televised instruction in the early 1980s. Broadcast television, like

correspondence study, assumed a student at home, alone. This approach is "individual-centered" in the sense that it gives the student a great deal of control over the time, place, and pace of study. However, it is rarely "individualized"; the subject matter, the readings, and the sequencing of study are controlled almost entirely by the institution.

Since the mid-1980s, the rapid diversification of interactive telecommunications media--satellite, microwave, compressed video, audio conferencing, etc.--has brought group instruction into the forefront of distance education. These media tend to be used to extend the traditional classroom. The effect is to shift control over the time, place, and pace of study back to the institution, but to add to the educational experience an opportunity for student-student interaction and some degree of spontaneity.

Currently, a third relationship is emerging: "the learning community," made possible by the asynchronous use of such telecommunications media as computer conferencing, electronic mail, and voice mail. Because these systems do not rely on simultaneous communications, they allow for the student to again control the time, place, and pace of study, but also to communicate with other students who may be at a different point in the same course or who may be taking different courses in the same curriculum. The purpose of interaction in a learning community is less didactic and more contextual, offering the prospect of an extra-curricular dimension to distance education and new opportunities for the curriculum itself.

We can anticipate that a fourth relationship will emerge late in this decade or early in the next, as students gain direct access to large data bases, hypermedia stacks, "dial up" access to video and text material, etc. Call this the "empowered student" or, perhaps better, "the community of scholars" in which students will control the time, place, and pace of study; will be able to communicate freely with faculty and peers; and, in addition, will have considerable control over the scope and sequence of the material to be studied.

These evolving relationships will significantly affect the dynamics of higher education as we enter the next century. They will require that we rethink and make explicit our relationships with students, just as we reconsidered the "in loco parentis" role when adults first entered higher education during the G.I. Bill years. It will also require that we rethink our definition of instruction, our assessment of learning, and our ideas about curriculum.

Trend Three: Changing Relationships Among Institutions

At the end of the 1970s, institutions generally acted individually with regard to distance education. They created their own courses or purchased materials from other institutions and, generally, offered courses within an established service area. What few inter-institutional arrangements existed tended to be cooperatives designed to reduce the price of acquiring materials or to share in the cost of delivering materials.

The 1980s saw, with the first use of satellite, the development of consortia designed to share the cost of course development as well as delivery. The precursor to the consortium model was the University of Mid-America. More successful models were the International University Consortium and, for noncredit materials, the National University Teleconference Network. Today, such consortia occupy a stable niche in the institutional environment, but the concept of institutions sharing in the design of instruction was a significant departure from business as usual.

As the 1990s unfold, we are seeing still other innovations in institution-to-institution relationships. The most visibly established of these innovations is the networked open university. Its precursor is the National Technological University, which offers a national degree through the joint efforts of several major institutions. A more recent example is

the National Universities Degree Consortium, which combines the efforts of nine land grant institutions to offer a national undergraduate degree in management. The Mind Extension University, which stimulated NUDC, is also facilitating other, more specialized consortia to offer national degrees in library science and instructional systems design.

A more radical innovation is quietly asserting itself at the same time. We are now seeing, for the first time in American history, the emergence of national universities. These are not, like traditional institutions of national reputation, universities that attract to their campuses students from around the country. The new national institution reaches out nationally, taking its program to students in their own communities. Examples include the Masters of Business Administration offered by Colorado State University, a computer science degree offered by Chico State University, the library science program offered by Arizona State University, George Washington University's Master of Educational Leadership, Penn State University's Master of Acoustical Engineering, and the University of Maryland University College's undergraduate program in Nuclear Science.

Trend Four: The Emerging Mainstream

Distance education is a relatively new term in American higher education. While correspondence study is a century-old tradition in the land grant institution, "distance education" has been part of the common vocabulary of higher education for less than a decade. There are some who feel that distance education is, rather than a distinctive approach to education, a symptom of broader changes in the educational paradigm. In this sense, we can see distance education as simply a label that we use to make change more manageable. In another decade, the term may fall into disuse as the technologies of distance education--and the new relationships set into motion by our use of those technologies--enter into the mainstream of the educational process.

In this view, we can see higher education adapting to currents of social change. In the process, we can see evolving a new technological infrastructure that defines the environment just as reliance on the classroom and the campus led to development of our concept of academic time. The new mainstream will see more explicit articulation of the customer-supplier relationship between universities and the students they serve. It will also see a new sense of mission, in which institutions are defined less by their immediate geographic community and more by the professional communities that they serve through national degree programs and continuing education programs.

These same trends hold great potential for re-conceptualizing the curriculum. The technologies used by distance education lend themselves well to an outcomes-oriented assessment of learning and could facilitate the movement toward outcomes-based curricula. Similarly, the "third generation" of distance education will empower students to be autonomous scholars, greatly changing the basic teaching-learning relationship. Moreover, the media and methods of distance education will enable us to make explicit educational objectives that traditionally have been held as implicit assumptions about education. Decision making, problem solving, values development, intercultural communication all have the potential to be treated more directly through the use of distance education methods.

Implications for Planning

How can higher education respond to these trends? The trends suggest several areas for strategic development.

First, institutions should begin thinking of distance education in institution-wide, rather than programmatic terms. This may require some new approaches to program development at the institutional level, as distance education may extend beyond the traditional boundaries between on-campus and off-campus instruction or between resident and continuing education.

Second, institutions should think about how to organize their distance education development and media resources to allow for more flexible combinations of media as required by individual programs. As distance education moves from a single-medium program to a multi-media institution-wide system, new organizational approaches may be needed that open the way for new kinds of collaborative media development and that provide ample space for both distance education and other instructional and non-instructional applications of technology.

Third, institutions must develop a set of vision and mission statements that accurately reflect their distance education capabilities and goals. The vision and mission should address academic as well as technological and administrative goals for distance education: what academic programs can best benefit from distance education? How broadly should these programs attempt to reach?

Fourth, institutions should visualize an institutional matrix to guide exploration of possible inter-institutional collaborations. The matrix should consider potential relationships with public schools and community colleges, with client businesses and industries, with other institutions within its state or region, and with other institutions nationally and internationally.

Finally, recognizing the increasing potential for distance education innovations to migrate toward the institutional mainstream, institutions should review their policies and procedures and, where needed, broaden them to include distance education delivery.

Conclusion

In the last decade, distance education has emerged as a powerful force for change in American higher education. The potential scope of that change is suggested by trends in the use of technology, in changing relationships between our institutions and the students they serve, in changes in relationships among institutions, and by a new dynamic within institutions. The current environment offers institutions an exceptional opportunity for planning that will facilitate the emergence of a vital educational environment that uses technology to keep the student's needs in the foreground.

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