Issues in Using Technology for Outreach Programs

Paul Hunt, vice provost for Computing and Technology at Michigan State University, believes "It is the responsibility of university information technologies (IT) to support distance learning as a special form of outreach," one that has "academic respectability," but also gains "the approval of accreditation bodies, who may regard technologically mediated distance learning in new and unfamiliar modes with some degree of skepticism." The following issues form an outline for providing accredited distance learning programs:

■ The effort necessary to ensure that information resources available to lifelong learners through outreach are adequately rich and deep.

■ The apparent lack of a consensus on benchmarks for what information resources must be available to those learners.

■ The provision of ubiquitous opportunities for distance learning with ease of access for learners.

■ The need for equity in access to information by distance learners.

■ The integration of continuous quality improvement informed by the institutional mission across all areas of distance learning and outreach.

■ The fundamental tension between caution in trying new uses of information technology and the necessity of embracing economies of scale, moving rapidly from pilot to production in order to make such applications feasible.

■ Emerging issues that demand special attention, such as a) the extent to which employers are prepared to let employees have a sufficiently porous workplace through information technology to permit inreach and outreach to distance education providers; and b) the kind of relationship necessary for nonstudents to access institutional data.

Depth and Richness of Information Resources

What kinds of resources must be offered to support distance learning programs created by our academic units? For instance, what must the institution provide for the distance learner to pursue such topics as "Budget Management for Engineering Projects" or "Managing Engineering Design and Development in Market Focused Firms?" These kinds of topics might demand that the IT provide a whole range of resource support tied to the syllabus, particularly if the course offering is "being made available coast-to-coast by satellite." The university IT must confront how to provide support staff for consulting, training, etc. "at distance sites that we may not control or have easy access to in person," or that "exist behind electronic firewalls constructed by our corporations to protect proprietary and financial data."

Contact:

Paul Hunt, Vice Provost, Computing and Technology
Michigan State University
400 Computer Center
East Lansing, MI 48824

Phone: 517/353-0722

Fax: 517/432-1430

E-mail:
pmhunt@msu.edu

Presenter:

Michigan State University

Lewis Greenberg, Director
Computer Laboratory
Professor of Computer Science

Secondly, the land-grant institution faces particular questions because of its mission. In attempting to provide lifelong education and learning opportunities to learners, what responsibility does it have within its state to those "taking instruction from other institutions at very considerable distance, but who may need access to the same information technologies — be they books, periodicals, or hands-on software for management exercises?" The IT could face a host of needs in creating the rich and deep environment necessary for a range of distance education programs.

Benchmarks

Currently, few benchmarks exist for determining whether distance education programs are doing an acceptable or, indeed, an excellent job. The benchmarking questions encountered during a North Central accreditation self-study related to the provision of a rich information environment for the distance learner are minimal. The only benchmark related to distance education was a listing of external networks that provide access to the Internet for research and outreach education. Accreditors should give more direction for benchmarking distance education while also providing some degree of flexibility to technological programs.

Distance Learning Opportunities and Access

From the learner's perspective, the great national problem concerning ubiquitous provision and ease of access is the explosion of demand for dial-up access to the Internet for interactive learning. Lewis Greenberg, professor of computer science and director of the Computer Laboratory, described the Merit Network, formed by and serving the educational institutions of Michigan. Michigan higher education institutions faced the need to provide dial-up to individuals across the state without perpetual busy signals because of overuse, while providing equity of use for all the institutions sharing in the expense of the network. The Merit Network committee established a system of tokens earned by institutions that purchase nonowner ports of connection (where access is on a first-come, first-served basis) instead of more owner ports (where the owner controls the parameters of access). The purchase of nonowner ports enriches the entire system across the state, not just the institutional territory, and is rewarded with tokens for that institution's client access into the state system.

If they had not developed this token system, many Merit institutions would have removed their dial-up lines from the network, denying many lifelong educational clients access to the World Wide Web, to gopher

servers, and to electronic journals needed for distance education programs. The Merit institutions were challenged to face runaway costs for equipment and data lines while insuring equitable statewide access for all individuals and institutions.

Equity of Access

The issue of ubiquity in access ties integrally to the fourth issue of equity including both hardware equity and software or data equity. There has been a long-term commitment in the United States to universal telephone service. Those individuals who believe that part of the empowerment of the individual citizen includes access to the information superhighway have advocated a continuing commitment. Others believe, however, that a public works approach to the informational technology infrastructure would ultimately inhibit development because of its anticompetitive approach. As a result, there are two different approaches to equity of access: a) a major statewide infrastructure such as the Intel Net Project of Indiana and Ohio; or b) the private sector competitive model being embraced by Michigan and North Carolina.

The software side of the equity issue is more complex. Does the off-campus student have parity with the on-campus student? Does the noncredit distance learner have the same access as credit students? Does access to information depend upon the particular discipline pursued by the student, even though the individual course is technologically mediated? (Sometimes, the vendor permits access only to students who find the information applicable to their particular discipline.) The issue becomes especially prickly when learning institutions broker information as a commercial product. Those who believe in the library approach of comprehensive public access find this troubling. What are the implications for the future of equitable access in viewing the provision of electronic information as a potentially commercializable service?

Distance Learning and Continuous Quality Improvement

All ITs must deal with the fifth issue of continuous quality improvement or total quality management. The promotion of quality as sites proliferate is not a trivial matter. Third parties often administer remote sites. Michigan State University handles the issue of quality simply. If the instructor can teach an hour without interruption due to the technology and the student can hear with no breaks, they give the session a pass. Otherwise, it is given a fail. They discontinue those sites with a "poor batting average." Whatever the system or criteria, some means of measuring quality across the institutional mission must be worked out.

Caution versus Rapid Deployment

The tension between caution in experimental technology and the necessity of embracing economies of scale accompanies all endeavors in distance learning. Those who work with distance education technology know that "in costing out programs you win by head count." Replicating programs at multiple sites is advantageous. However, accrediting bodies often react against the cloning of distance education programs. This creates a problem for ITs who want to meet cost challenges. For example, Michigan State University delivered a program by CODEC to one remote site and then sought to repeat the courses at another location, taking careful precautions to fully replicate the program. The accrediting society warned that the university was moving too far too fast. The impact of meeting accreditation demands remains a difficult issue for ITs, and becomes extremely problematic in meeting production costs.

Emerging Issues

Finally, a set of multiple issues is emerging to challenge the IT. "The corporate data firewall remains something of a challenge to those of our faculty in forward-looking units such as the School of Labor and Industrial Relations, which are seeking to provide curricular materials through the World Wide Web; in order for corporate employees to access those materials, they must be able to get outside the firewall," according to Hunt. The credentialing of individuals for access into an institution's data remains an issue for top administrators and policymakers as well as the IT.

These seven complex issues must be addressed to move academic units along in providing quality programs. None is easily answered and all demand flexibility to meet new challenges. Old standards and structures, particularly within accrediting societies, are often inadequate to resolve these issues. Therefore, the information technologist should not only raise appropriate questions but propose new innovative solutions.