

1993 Calendar Items for AACE Conferences

ASSOCIATION FOR THE ADVANCEMENT OF COMPUTING IN EDUCATION

March 17-20, 1993

STATE 93—Fourth Annual Conference on Technology and Teacher Education

Theme: Technology Across the Curriculum
Location: Sheraton Harbor Island Hotel, San Diego, California
Sponsor: Society for Technology and Teacher Education (STATE), a division of the Association for the Advancement of Computing in Education
Host: California Association of State Technology Using Teacher Educators (ASTUTE), California State University-San Marcos, San Diego State University, and San Diego Tech Consortium

June 23-26, 1993

ED-MEDIA—World Conference on Educational Multimedia and Hypermedia

Location: Orlando, Florida
Sponsor: Association for the Advancement of Computing in Education (AACE)

August 23-27, 1993

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Location: Edinburgh, Scotland
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ARTICLES/ARTICLES

Technology and Library Users Automation and Outreach: Library Services to Off-Campus Students

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Abstract

Library services to students enrolled in off-campus and distance education courses can be improved by using technology currently available. Brandon University's online catalogue, called BuCAT, fits the definition of a "SuperCatalog" in that it does more than "provide access to local library holdings." BuCAT serves as a regional gateway to the resources of three university libraries (Brandon, Manitoba, and Saskatchewan), and it contains a comprehensive record of Brandon's monographic, journal-article, government-publication, and ERIC-document holdings. The online catalogue, therefore, provides a way to teach research skills to all students with access to a microcomputer and modem.

Résumé

Les services offerts par les bibliothèques aux étudiants travaillant hors établissement ou à distance peuvent être améliorés en faisant appel à des technologies déjà existantes. BuCAT, catalogue informatisé de l'université Brandon, est un "supercatalogue" qui, en plus de donner accès aux documents disponibles localement, fait office de passerelle régionale pour les ressources de trois bibliothèques universitaires (Brandon, Manitoba et Saskatchewan). Il comprend un répertoire exhaustif de la collection de Brandon: monographie, articles de périodiques, publications gouvernementales, documents ERIC. Ce catalogue interrogeable en ligne devient ainsi un outil d'initiation à la recherche, à la portée de tout étudiant équipé d'un micro-ordinateur et d'un modem.

Introduction

Adults enrolled in distance education courses, which require them to study and learn independently, work under circumstances that pose special difficulties for those seeking a university degree. Because there is little or no direct contact between student and instructor, such matters as how to access research materials or prepare term papers may not be addressed adequately. Students taking courses off campus, though in a regular classroom setting, can be similarly disadvantaged by the lack of opportunity to learn research techniques (Slade, 1989, pp. 419-420). Perhaps one of the greatest obstacles for these students is their remoteness from an academic library and the expertise of its professional librarians. This also affects the opportunity for students to develop the critical-thinking skills needed not only to conduct library research but also for career success in the information society.

Given that access to information underlies an expanding part of the economy's service sector, we argue that research skills acquired in university are at least as important to a student's later career as mastery of a particular body of knowledge. Those students who are enrolled in off-campus degree programs and who will work in information-based occupations are entitled to bibliographic instruction that is equal in quality to that available to those who study on campus. Computer technology is now sufficiently well-developed to make this possible. Using this technology, faculty and librarians can teach research skills to students with whom they may never have face-to-face contact. When properly introduced, technology can stimulate the imagination of off-campus students and encourage them to seek out information beyond the traditional course framework. It gives them the opportunity to acquire and practice the independent learning skills they need to succeed both in a degree program and in a career.

Of great importance is access to a well-designed online catalogue with a comparatively simple command structure, one that permits efficient searching of a comprehensive bibliographic database. In order to avoid pre-packaging research materials, librarians must encourage students to conduct their own literature searches and to identify relevant sources for themselves. By enabling them to become autonomous researchers, distance and off-campus education may produce persons able to embrace ideas and to participate actively in their own education. How can libraries and library technology advance this "learner-centred view" (Burge & Snow, 1990, p. 301) of the educational process?

BuCAT: An Overview

A comprehensive online catalogue, easily accessible via modem, is essential to any distance education program. Slade (1991), in a recent issue

of *Library Trends*, notes that "some Canadian universities are currently experimenting with adding selected databases such as ERIC to their OPACs. This will eventually provide the off-campus students with even more independence" [emphasis added] (p. 474). At Brandon University the experiment has already succeeded, and Slade's future has been our present for at least four years. The joint efforts of librarians and computer scientists over a number of years have produced an online catalogue, called BuCAT, with features that help students to overcome the distance barrier. BuCAT serves as the regional gateway to an academic library either by direct-dial or through the Canadian packet-switching network, Datapac. Communications links with simplified sign-on protocols have been set up between the library and several remote centres. Students are now motivated to begin their research by using the online catalogue rather than relying solely on a librarian to select appropriate material (Frick, 1982, p. 194).

There are three great advantages to a direct computer link between a university library, the off-campus teaching sites, and individual students. One, it gives students the opportunity to conduct their own, unmediated research in the catalogue. Two, it gives students a systematic approach or framework to use while pursuing their research, allowing them to identify and clarify the research problem. A display of subject headings in the full bibliographic record then permits students to relate their understanding of the research problem to possible solutions. Three, a much wider array of source material becomes available to students by virtue of the system's ability to conduct boolean searches. Remote access to the library's online catalogue enables students to become familiar with available research materials and allows them increased freedom in choosing sources. Once the requested materials are received, the evaluation of sources and evolution of the "intellectual process underlying successful research can occur" (Oberman & Linton, 1982, p. 112).

BuCAT provides access to all the library's collections; it contains bibliographic records for the university library's monograph holdings, musical scores, sound recordings, an increasing number of government publications, the complete ERIC-document database downloaded from tapes (full-text documents are available on-campus in microfiche format), and approximately 500,000 journal article citations with abstracts. Article citations from *Current Contents*, *Current Index to Journals in Education*, *Resources in Education*, and *Music Index* are downloaded for those journals to which the library subscribes. The library also indexes selected journal titles as issues are received. The system has full boolean-search capability and indexes by title, author, subject, keyword, and call number. Four commands (find, scan, list, and circulation), together with logical operators such as "&" (and), "|" (or), "~" (not), allow boolean searches to be performed with relative

ease. Dial-up access is available from all rural communities in which courses are taught. In several off-campus centres, sign-on protocols have been simplified to the point that two keystrokes establish the computer link. Once the menu appears, students can choose the appropriate option. Library technology developed at Brandon University allows students to conduct sophisticated library research from any community served by telephone communications.

BuCAT Version 3.1

Options currently available are

1. Brandon University Library: Books, journal articles, reports
2. Brandon University Library: Serials list
3. Brandon University Archives
4. Inter-Universities North
5. Course equivalents: BU and other universities
6. Newspaper clippings: BU Public Communications Dept.
7. University of Manitoba Library
8. University of Saskatchewan Library
9. Calendars and Annual Reports
10. Brandon University Film Catalogue

Enter the number of your choice or Q to quit:

If a search of BuCAT fails to turn up enough relevant sources, users can return to the menu and transfer to the online catalogue of the University of Saskatchewan (GEAC) or the University of Manitoba (PALS). By following the onscreen instructions, students must "feel" their way through these more complicated systems. Needed materials can be obtained for them through the inter-library loan department of the Brandon University Library. BuCAT, therefore, serves as a gateway to library resources of far greater scope than those available locally.

The Off-Campus Bibliographic Instruction Program

Brandon University's online catalogue functions as the primary information resource supporting off-campus courses offered by the university. Even those with little computer experience find the system easy to learn. It is more difficult, however, to become skilled at devising search strategies that produce satisfactory results. Therefore, "[l]ibrary staff play a key role in providing information on literature research methods, and helping students to refine the scope of their literature search" (Burge & Snow, 1990, p. 309). In order to use the online catalogue effectively, students must understand

- how to interpret the full bibliographic record displayed in BuCAT
- how to expand or narrow a search by using subject headings displayed on screen
- how the Library of Congress (LC) classification system, which decrees the structure of all machine-readable bibliographic records, sometimes can mislead searchers.

Vocabulary becomes a problem when, for example, the term "Indian" must be used to seek references to "Native people" or "aboriginal people." Another example of this kind of problem is LC's use of "Eskimo," whereas the approved Canadian term is "Inuit." Searching by synonymous or related terms results in the broadest range of citations. Catalogue instruction, therefore, teaches students how to use a thesaurus, an encyclopedia, and a dictionary. Brandon University librarians periodically make on-site visits to demonstrate BuCAT and to offer training in research techniques.

Students also need to know how "to discriminate among the various sources of information in order to locate pertinent data and to discover countervailing opinions to those which are first presented to them" (Frick, 1975, p. 12). For this to happen, students must have access to bibliographic data that can lead them to a variety of sources; they also need the encouragement provided by a well-designed course that contains a research component.

We have noticed that faculty who teach courses to off-campus students are often reluctant to include assignments with a library component because of the perceived difficulty of doing library research at a distance. To overcome that hesitancy, the library must "work to establish its presence and insure that off-campus faculty are fully aware of the library support available for the instructional program" (Kascus & Aguilar, 1988, p. 34). The compilers of a recent bibliography on off-campus library services advocate "effective working relationships with course designers and teaching faculty" (Latham, Slade, & Budnick, 1991, p. xvi). A principle more honoured in the breach than in the observance, collaboration between librarians and instructors nevertheless is essential to the success of distance courses (Burge & Snow, 1990, p. 306). Effective bibliographic instruction depends on this relationship.

Bibliographic instruction for off-campus students must encourage them to think critically as they evaluate source material and in doing so encounter opposing interpretations. Most important, students must be taught how to ask the right questions, when to ask them, and how to know when enough information has been obtained. Students who are away from the traditional university setting must learn this skill quickly if they are to cope with off-campus courses successfully. Cultural differences must be bridged, as well, so that everyone shares the same expectations.

Brandon University librarians are testing these ideas in the context of off-campus courses offered to the Native population. Native Canadians in Manitoba and Saskatchewan, who live mainly on reserves scattered throughout the region, are demanding and receiving greater access to university education. Their need for information services is increasing as a result. Adequate library collections, however, are usually unavailable locally. Brandon University's response has been to develop a unique relationship with off-campus students who typically wish to remain in their rural environment.

Our off-campus bibliographic instruction program, field-tested at the White Bear Reserve near Carlyle, Saskatchewan, is characterized by interaction among online catalogue, librarian, course instructor, and student. This remote site is linked by modem to the university's computer system and within that system to BuCAT. Once students have learned how to use the online catalogue and begin to execute their own searches, they transmit reference questions and requests for library materials by mail, telephone, FAX, or electronic mail. Students who request material by letter or FAX identify specific items. The most common means of communication, however, is the telephone call, which may turn into a reference interview. Frequently, students have completed their research and are asking only for certain titles. Other times the conversation between librarian and student helps to refine the research topic, to explore the range of available resources, and to ensure that students receive appropriate library material. Each package sent out is tailored to meet the student's need, as described to a librarian either in writing or in conversation. In some cases, students using BuCAT are becoming sophisticated enough to identify items by call number, author, and title.

Problems do arise, however, when students make requests in this manner. Materials located on BuCAT, for example, may be signed out before the off-campus student's request is processed. Occasionally, a citation that looked interesting turns out, on closer inspection by a librarian, to be inappropriate. When this kind of thing happens, relevant sources that are available in the library can be substituted. Therefore, the more a librarian knows about a proposed research project the better. The task of selection would be easier and the results more satisfactory, if students could be persuaded to submit a brief description of their research topic. For whatever reasons many Native students are reluctant to prepare abstracts. Consequently, guesswork and trial-and-error sometimes characterize our efforts to assist. There is in the end, however, no substitute for personal contact between student and librarian.

Acquainting university students enrolled in off-campus courses with library research remains a difficult proposition, despite remarkable technological progress. Lack of immediate access to the resources found in

academic libraries is the main problem. Even basic reference works, such as dictionaries and encyclopedias, may be unavailable locally. In a few off-campus centres, public libraries are able to compensate to a point by providing enough information to get a research project underway; but this is not the case for students on the White Bear Reserve or other Native communities in rural Manitoba. Brandon University library recently donated a small library collection to the White Bear Reserve and to Pineimuta Place, education centre for the Inter-Lake Regional Tribal Council; but even it did not include basic reference items. Students soon realize that securing the library materials they desire may be time-consuming and may require some considerable effort. Reinforcement must be provided by various course instructors and Brandon University librarians in order to facilitate the students' research efforts. This is the best way to reduce frustrations inherent in studying at a distance.

Taking a university-level course, with its heavy intellectual demands, is an obstacle that must be acknowledged. Apprehension is compounded by the need to use unfamiliar computer technology to obtain library materials. Mature Native students in distant locations, such as the White Bear Reserve, who are taking university courses for the first time are likely to feel somewhat inadequate. Unlike their counterparts on-campus, these students have limited contact with reference librarians who are able to de-mystify the process of searching an online catalogue or using a library. A counsellor at the White Bear Education Complex, with the interest and expertise to encourage the use of computer technology, performs a valuable consultative role at the local level and thus helps to overcome the effects of isolation.

Discussion

Technological developments promise to solve a number of problems associated with studying at a distance. One innovation is the advent of the "SuperCatalog," defined as "a computerized library catalogue that goes beyond providing access to a local library's holdings." Access to remote databases, the online catalogues of other libraries and "commercially-produced databases loaded locally" is the SuperCatalog's main feature (Davis & Ensor, 1991, p. 94). In meeting these criteria, BuCAT acts as a primary information resource which supports off-campus courses offered by Brandon University and by Inter-Universities North (I.U.N.), a consortium of Manitoba universities that offers degree programs north of the 53rd Parallel. BuCAT's usefulness will increase when an online ordering feature is added to the system, which will occur at some point in the future. Commercial periodical indexes may also be added to the BuCAT menu, so that searchers can discover all that is "out there" rather than being limited to the holdings of the

Brandon University Library. Other databases intended to enhance access to information for all library users can be included as required.

What evidence is there that information technology already is helping distance education students to acquire research skills? One indication is the growing number of requests for specific items that have been located on the online catalogue: 82 out of 276 requests (30%) during the 1991/92 academic year. Library policy, in fact, is to research topics only for students who do not have a computer link to BuCAT; those who do have such access are expected to conduct their own bibliographic research. An exception to this rule is the effort made by the library to locate periodical literature listed in indexes to which off-campus students at present have no access.

Visits to remote sites in order to provide catalogue instruction now are scheduled to occur early in the term so that students derive the greatest advantage from what necessarily are infrequent appearances by a librarian. In addition, faculty who teach for I.U.N. receive a BuCAT orientation during the late summer, immediately before classes begin to familiarize them with the system and to assist their students.

Once dial-in access has become an accepted and familiar part of learning activity in a distance education setting, the host library must respond to requests arriving by computer, phone, or FAX (Burge & Snow, 1990, p. 309). Journal articles are easily transmitted by FAX, but books must be dispatched by mail, courier, or bus. Until full-text digital transmission is practical and associated copyright issues are resolved, traditional methods of document delivery must suffice. Nevertheless, a speedy response by library personnel encourages greater use of the online catalogue by students in remote centres.

Our aim is to motivate off-campus students to become skillful users of BuCAT early in their academic careers. Because the online catalogue is a comprehensive information source that includes monograph, journal-article, government-publication, and ERIC-document citations, there is quick return on the time invested in learning how the system works. Requests for specific items usually are filled within forty-eight hours, a turn-around time greatly appreciated by students. That is as close as it is now possible to come to a direct interaction between off-campus students and their library. The task remaining is to extend online access to other remote sites in northern Manitoba so that all distance education students enjoy the same measure of access to bibliographic information as do those on-campus. When students become less dependent on a librarian's assistance in making selection decisions, they begin to gain intellectual autonomy. And, that, after all, is the goal of a university education.

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